



***NORTON***

**ABRASIVE TECHNOLOGICAL EXCELLENCE**





- Worldwide market leader
- Product innovations
- Cutting edge technologies
- Complete range of stock products
- Widest spectrum of product quality
- Made-to-order solutions

**ABRASIVE TECHNOLOGICAL EXCELLENCE**

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Norton, the world's premium abrasive brand, offers a complete range of high performance products designed to perform in any abrasive application in all industrial markets.

As the technology leader, Norton sits at the forefront of the industry offering highly engineered value-adding abrasive solutions. Each year, Norton makes substantial investments in R&D helping to generate innovative ideas that aim to revolutionise abrasives. This strong commitment to innovation ensures that exciting new products are continuously introduced, offering substantial benefits to customers by helping to improve process productivity.



**As well as New Product Development, Norton is committed to utilising technology breakthroughs in all its existing products.** Both the Norton stock range and made-to-order solutions are continually reviewed to ensure that the product offer remains fresh and conforms to the most recent market trends. This approach ensures that all Norton products benefit from state-of-the-art technology, and that the Norton brand has continued sustainable market growth.

**Norton reinforces its position as market and innovation leader by constantly analysing the market to ensure it continuously fulfils customer needs.** Norton looks to acquire and hold extensive knowledge about its customers' business activities and product priorities. This market orientated approach enables Norton to better anticipate customer requests and to have an improved understanding of market developments.

**Norton's technical expertise ensures not only are the most appropriate products used in all abrasive applications but also they are used in an effective and safe manner, maximising performance.** Through this Norton looks to establish valuable working partnerships with its customers of all sizes and stature. These working partnerships are reinforced through extensive marketing activities that support its complete and innovative product range.

**Norton is much more than the world's leading manufacturer of abrasive products, it's a brand that has become and remains number one in the minds of its customers.** Norton is committed to the long-term development of abrasives and is part of a company that looks to assist customers in all their abrasive needs.





## ABRASIVE TECHNOLOGICAL EXCELLENCE

Since Norton's first breakthrough, in 1885, research efforts have continued to produce industry-leading results. At the start of the 20th Century Norton's first innovation was the invention of Norton's trademark Alundum abrasive grain, an aluminium oxide grain that could be manufactured to meet precise grinding requirements. Throughout the 20th and early 21st Centuries Norton has increased its research efforts by developing innovative products made with new grains including, aluminium oxide, zirconium oxide (Norzon®), Seeded Gel (SG®) and IPA (Vortex™).

Today, Norton's relentless commitment to Delivering Technological Excellence is reinforced through its "Centres of Excellence". Positioned across the globe, each centre concentrates on the development of exciting new products and grains for all applications found within one type of abrasives.



## BONDED ABRASIVES

Opened in 1993, the World Grinding Technology Centre in Worcester, Massachusetts, USA, is Norton's premier research centre for Bonded Abrasives products. In 1998, the centre was renamed as the Higgins Grinding Technology Centre, in honour of the late Milton P. Higgins, a member of one of the founding families of Norton.

The centre is dedicated to the advancement of grinding technology and abrasive product performance, using structured R&D that focuses on grinding system solutions, coolant system solutions, and process diagnostics and optimisation.

The centre conducts regular training sessions promoting a systems orientated education focusing on new process development, and increasing the awareness of new product technology. The centre enables Norton to set the standard for Bonded Abrasive product performance throughout the worldwide abrasives industry.



## SUPER ABRASIVES

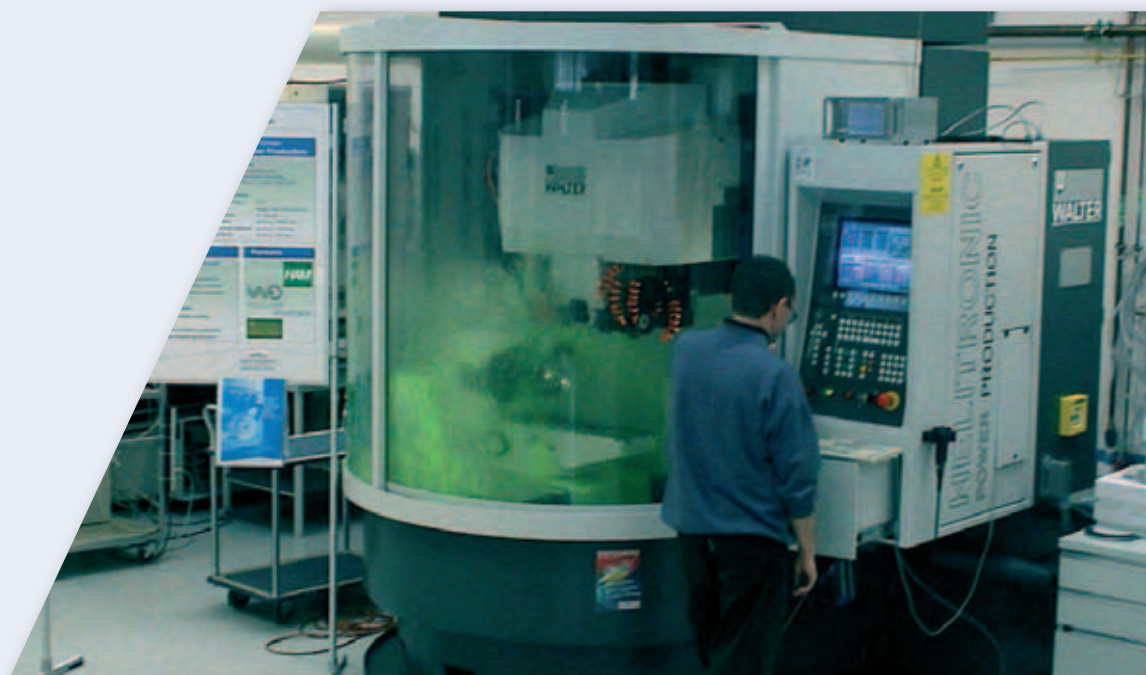
The Norderstedt Technology Centre (NTC), founded in 2001, is located at the Saint-Gobain Abrasives Diamantwerkzeuge production plant in Norderstedt, Germany. Since opening, the NTC has played a key role in new grinding wheel and process technology development for Super Abrasive products.

The centre brings together the expertise of Super Abrasive specialists who have a profound understanding of the complex grinding system, with innovative measurement and analysis tools which enables detailed investigation of grinding wheel performance and complex tool-workpiece interactions.

The NTC conducts short-term customer application projects in close collaboration with the Saint-Gobain Abrasives application engineering teams, who have a strong European presence. As well as this, long-term projects targeting more complex tasks are frequently performed by the centre. The centre allows research teams, consisting of end-users, grinding wheel manufacturers and machine manufacturers, to meet in one place. This enables fast, sustainable and economical solutions for all Super Abrasive applications.

The NTC possesses a number of modern CNC grinding and consignment machine tools to deal with the different applications found in a global market.

The attitude at the centre is highlighted by the numerous seminars and training sessions conducted each year, for both Saint-Gobain Abrasives employees and Norton customers from across the globe.



## CUTTING-OFF & GRINDING WHEELS

The Saint-Gobain Abrasives Centre of Excellence in Eibergen, Netherlands has outstanding experience in testing Cutting-off and Grinding wheels. The highly sophisticated test centre has advanced training facilities with a range of carefully selected, up-to-date machines enabling tests to be carried out on the most common application materials. It is possible to test all wheels in the Norton range from diameter 76mm to 406mm, analysing cutting performance, grinding performance, and wheel safety.

The test centre also contains a state-of-the-art robot, which, when used by the centre's expertly trained operators, enables highly reliable test figures to be produced in clear test reports. This not only helps Norton sales teams sell products but also supports Research and Development efforts.

Regular training sessions are also conducted for employees and customers which cover both the theoretic and practical aspects of our products and their application. Regular presentations and demonstrations are given by our product and application specialists.





## COATED ABRASIVES

For more than 80 years our manufacturing plant, in Wesseling near Cologne, Germany, has been well-known for the development of Coated Abrasive products. Computerised production processes, high performance product specifications formulations and a long-standing quality management system give the required assurance for the high performance of all Wesseling manufactured products.

This long standing expertise has allowed Norton product and application engineers to have a superb understanding of the technical issues encountered during coated abrasive applications.

The Wesseling Technology Centre, due to be officially opened as a Centre of Excellence in 2007, features a state-of-the-art Automotive Aftermarket training centre including a spray booth that replicates the real life working environment of Body and Paint Shops.

The Technology Centre is also equipped with a high tech back stand grinder, down draft tables and selected hand tools, that allow focused application tests to take place. This gives Norton engineers the fullest and most accurate knowledge of applications using basic products to more high-tech engineered abrasives, such as NORaX®.

The forward thinking approach adopted at Wesseling is passed to sales staff through regular training sessions, giving them a greater understanding of our products to pass on to our customers.

## DIAMOND BLADES

Norton's facilities in Bascharage, Luxembourg, host the Norton Diamond products state-of-the-art Centre of Excellence.

Ideally located in the centre of Europe, the facilities are used to offer regular training sessions to both staff and customers. Visitors to the centre can learn about the best use for the different types of diamond blades, compare the different Norton ranges in the demonstration area, and learn about effective and safe methods of use. Using products and seeing them being used by experts not only helps provide a more memorable experience, but also helps people develop a greater understanding.

The showroom at Bascharage also gives visitors the opportunity to see the whole range of Norton Diamond Blades as well as every type of Clipper machine.

The centre is also a key resource for product development and testing. All new products are subjected to strenuous tests to gather accurate application and performance statistics. This not only ensures product safety, it also ensures accurate information is gathered meaning products can be sold with confidence by our sales personnel. The test area is of-course equipped with a wide range of up-to-date equipment, to help measure and control product tests.





## DELIVERING INNOVATIVE EXCELLENCE

### INNOVATION

Investing in R&D, stimulating the generation of new ideas, and increasing the speed at which cutting-edge science is turned into market-ready products, are identified as key factors that determine business success and are some of Norton's main business priorities.

Norton also takes an innovative approach to its business operations, and is committed to the continuous improvement processes and services, creating, evaluating and exploiting new ideas to help continuously add value to its customer relations.

Recently a number of product innovations have been introduced. These are clearly highlighted throughout this catalogue.

Norton's innovative abrasive solutions offer outstanding productivity and versatility, and help reinforce its position as the world's leading manufacturer of abrasives.

### NEW TECHNOLOGY



NORaX<sup>®</sup> is an engineered three-dimensional coated abrasive product that uses an innovative structure to help give high performance in cut, finish and consistency. Using special pattern technology, the product can be adapted to work better in different situations, increasing productivity, quality and repeatability, whilst reducing cost, scrap, and inventory.



Vortex<sup>™</sup> technology is an innovative new grinding concept that combines high metal removal rates with minimum heat generation. Cycle times can be reduced by up to 50% and productivity is greatly improved, with 2 to 3 times the number of pieces ground per wheel, compared to more standard solutions.

## NEW ABRASIVE GRAINS

### **SG** **BLAZE R980**

R980 is a new generation ceramic SG® abrasive used in Coated Abrasive belts, flap discs, and SpeedLok® discs. It cuts faster and has significantly longer product life compared to all other standard abrasive solutions. This cool cutting abrasive generally lasts between 50% and 200% longer than standard products.

### TG

TG abrasive technology is a high performance SG® ceramic aluminium oxide abrasive for Bonded Abrasive grinding wheels. It delivers high levels of productivity and extremely high quality results to help improve process productivity and results on metal applications. TG wheels are extremely good at keeping their form and give maximum part productivity through reduced cycle times and low power draw.

### ES5

ES5 is a high performance SG® ceramic aluminium oxide abrasive that is used primarily on small diameter Bonded Abrasive wheels for internal (ID) grinding. Its flaky shape combined with its self-fracturing characteristics and natural sharpness mean it has highly advanced cutting capabilities and is ideal for low pressure operations.

## NEW PRODUCT CONCEPTS



Cutting, light grinding and polishing! All with one single product. Impossible? Not anymore! The new Norton 1-2-3 wheel makes it possible! The unique 3 layered reinforcement structure in combination with the selected abrasive materials contribute to this innovative new product. So, finally there's no need to be continually switching wheels. The new Norton 1-2-3 can save you valuable time.

### **MULTI** **PURPOSE**

The Norton multi-purpose wheel means one single wheel can be used to cut steel, stainless steel, aluminium stone, tiles, pvc, and a range of other materials, without any compromise on performance. The versatility and life of this product means it is the ideal cutting solution for all typical construction and general maintenance applications.



The Norton Octopus® grinding and polishing wheel allows you to see the workpiece through the wheel whilst it is being worked on. This means work is more precise and it does away with the need to continually keep pulling away from the workpiece to check results. This improves productivity by reducing the time spent on each operation.

## MULTI-AIR

Multi-Air® combines the excellence of Norton No-Fil® technology with a revolutionary dust extraction system that provides users with an optimal sanding solution. The dust extraction system gives a 30% increase in dust extraction, meaning clogging is virtually eliminated, the working environment automatically becomes cleaner and the cutting surface of the disc remains cleaner with less clogging. This gives a 35% increase in productivity when compared to traditional vacuum systems. All Multi-Air® discs should be used with the corresponding back-up pad that forms part of the revolutionary dust extraction system.

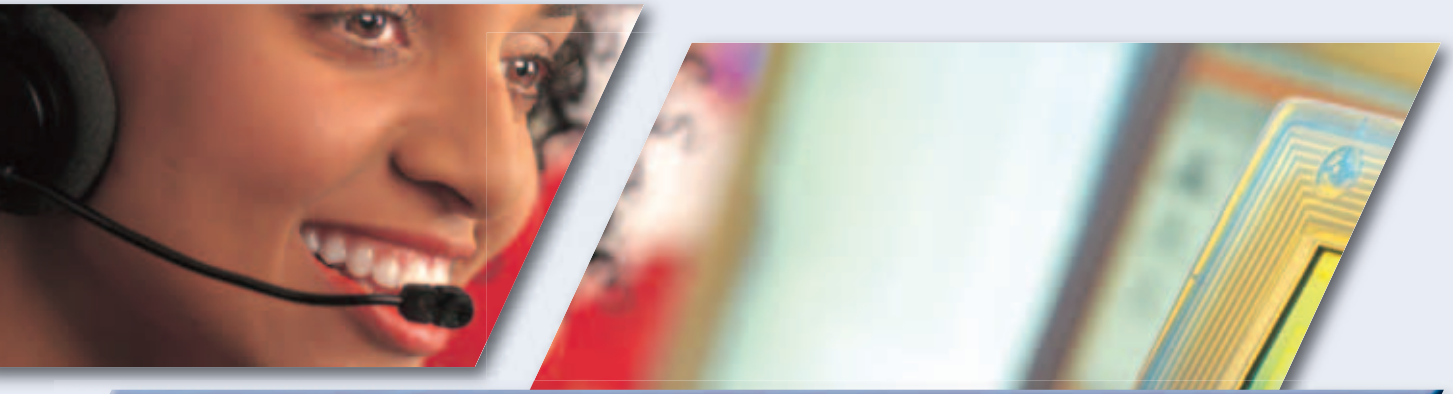
## explorer

“4x4 Explorer” is the revolutionary laser-welded diamond blade from Norton, for petrol handheld saws, floor saws and masonry saws.

It is designed for cutting the widest variety of building materials from reinforced concrete and granite, to asphalt, scaffold poles and barriers.

“4x4 Explorer” also introduces the innovative patent-pending “cut depth indicator”, the perfect device to optimise cutting speed and blade life in step-cutting.





## DELIVERING MADE-TO-ORDER SOLUTIONS

### NORTON IS A UNIQUE SOLUTION PROVIDER

**Whatever the industrial sector, Norton is dedicated to providing the most appropriate and effective abrasive solution for any application including cutting, grinding and polishing.**

In addition to the thousands of stock products available in Coated, Bonded, Thin Wheels, Diamond Blades and Super Abrasives, Norton offers a large number of made-to-order products designed to meet any technical requirement.

Made-to-order solutions represent a significant amount of the complete Norton product offering. When complex application environments have to be analysed, when cutting-edge technology is necessary to optimise product performances, our leading brand offers the premium solution.

Many Norton customers benefit from our technical support – facilitating the choice of abrasive and combining insight from both sides to run appropriate tests and improve processes.

Sharing views and experiences, Norton represents your preferred partner to increase productivity and reduce overall cost.

### WHY SELECT NORTON?

#### BECAUSE:

- Our Centres of Excellence enable product testing under real conditions
- We have highly skilled, knowledgeable and experienced personnel devoted to delivering high performance solutions to fulfil customer needs
- We allocate time and resource to product testing/customer case studies
- We have acquired invaluable experience over our long history
- We establish client partnerships to ensure we are aware of the most up-to-date technology with regard to processes, machines and coolants

**OUR MANTRA IS CLEAR:**

Help customers select the right abrasive from our huge product offering and deliver highly engineered solutions that not only meet but exceed very specific and technical requirements, in all market segments.

**CASE STUDY EXAMPLE 1 BONDED ABRASIVES**

	<b>Vitrified</b>	<b>Vitrified</b>	<b>Organic</b>
<b>Market</b>	Aerospace	Gearing industry	Steel mill
<b>Application</b>	Creep Feed grinding	Gear grinding	Large cut-off operation
<b>Workpiece</b>	Turbine blade for power generator	Gear	Bars
<b>Material</b>	Inconel 738	Cemented treated steel	Stainless steel
<b>Coolant</b>	Water soluble oil	Emulsion 2%	n/a
<b>Dresser</b>	Diamond roll	Diamond roll	n/a
<b>Norton Wheel</b>	Altos TGX80D13VCF5	Vortex™ IPA60ME29VTX	Toros ZUA20XBF2
<b>Shape</b>	.01	.01F	.01
<b>Dimension (mm)</b>	508x40x127	450x20x127	1250x13,5x200
<b>Benefit</b>	Increase wheel life by a factor of 3,4	Reduce the cost per part by 3%	Improve wheel life time by 30%

**CASE STUDY EXAMPLE 2 SUPER ABRASIVES**

<b>Market</b>	Tool room	General engineering	General engineering
<b>Application</b>	Peripheral grinding of inserts	OD grinding	Surface grinding
<b>Workpiece</b>	Inserts	Drill bits	Tool
<b>Material</b>	Tungsten carbide	Polycrystalline Diamond	HSS
<b>Coolant</b>	Emulsion 2%	Emulsion 2%	Emulsion 2%
<b>Norton Wheel</b>	Norton SD54R100B77	Norton DEH126R125B56	Norton CB126QBB
<b>Shape</b>	12A2	3A1	1A1
<b>Dimension (mm)</b>	350x23x300 W=15 X=9	508x30x203,2 X=6,35	350x30x127 x=4
<b>Benefit</b>	Productivity increased by 25%	Decrease grinding cost by 20%	Reduction on cutting time by 15%

**CASE STUDY EXAMPLE 3 COATED ABRASIVES**

<b>Market</b>	Aerospace	Chipboard	Automotive industry
<b>Application</b>	Gate grinding	Sanding	Metal blending
<b>Workpiece</b>	Turbine blades	Boards	Body of a car
<b>Material</b>	Inconel	MDF	Metal
<b>Norton Product</b>	R 980	S 482	NORaX® U264 X200 Norgrip® discs
<b>Shape</b>	Belts	Sectional belts	Norgrip® disc
<b>Dimension (mm)</b>	150x3500	2620x3820	150x0
<b>Benefit</b>	Belt life +200%	Higher quality in surface finish reduces downtime (fewer belt changes)	10 times the life time of a standard paper disc with a consistent cut & finish

To learn more about Norton made-to-order capabilities, highly effective engineered solutions, cutting edge technologies that can help you optimise performance and reduce costs, please contact your local Customer Service Department.



## HEALTH, SAFETY & ENVIRONMENT

### ACTIVITIES

Our responsibility to customers, particularly in the area of safety and comfort, is taken very seriously. Products are designed and produced to the most stringent quality standards to guarantee optimum personal safety and user comfort. Saint-Gobain Abrasives is an active member of both FEPA and oSa.

Norton products comply with all expectations of European health, safety and environmental standards.

**FEPA**, the Federation of European Producers of Abrasives, is dedicated to the promotion of safety in the use of abrasives and is actively involved in the preparation and implementation of the European (EN) and International Standards (ISO) for Abrasives and Grinding machines.

**oSa**, the Organisation for Safety of Abrasives pursues in close collaboration with FEPA the objectives of supporting both the currently attained safety standards for abrasive products and their further developments.

The internal testing and certification is based on the following standards:

- Safety requirements for Bonded Abrasive products (EN12413: 1999)
- Safety requirements for Super Abrasive products (EN13236: 2001)
- Safety requirements for Coated Abrasives (EN13743: 2002)
- Safety requirements for Diamond Blades (EN13236: 2001)

Thus the oSa symbol on the abrasive signifies enhanced application safety for the user, a reduced liability risk and excellent brand image for manufacturers, traders and those in marketing.

**ISO 9001**, certifies Quality Management system is in accordance with requirements of quality standards.

**ISO 14001**, certifies Environmental Management system is in accordance with requirements of environmental standards.

**OHSAS 18001**, health and safety at work certification.





## DELIVERING ENVIRONMENTAL EXCELLENCE

**Norton prides itself on having an environment friendly approach to all its business activities. This approach is actively pursued as caring for the environment is a fundamental part of the corporate culture of Saint-Gobain. Environmental responsibility is both our responsibility as employers and also important for successful business operations.**

Saint-Gobain Abrasives actively looks to promote its environmental principles through its widely distributed EHS (Environment, Health and Safety) policy. The Environment Policy Statement is distributed to all employees in Europe, to ensure a clear consistent message is delivered. This is supported by the responsible attitude shown by all our employees towards the use of natural resources, and constant monitoring to ensure that environmentally focused business objectives are met. This is ensured through regular procedural reviews and employee training sessions.

### ENVIRONMENT PROTECTION

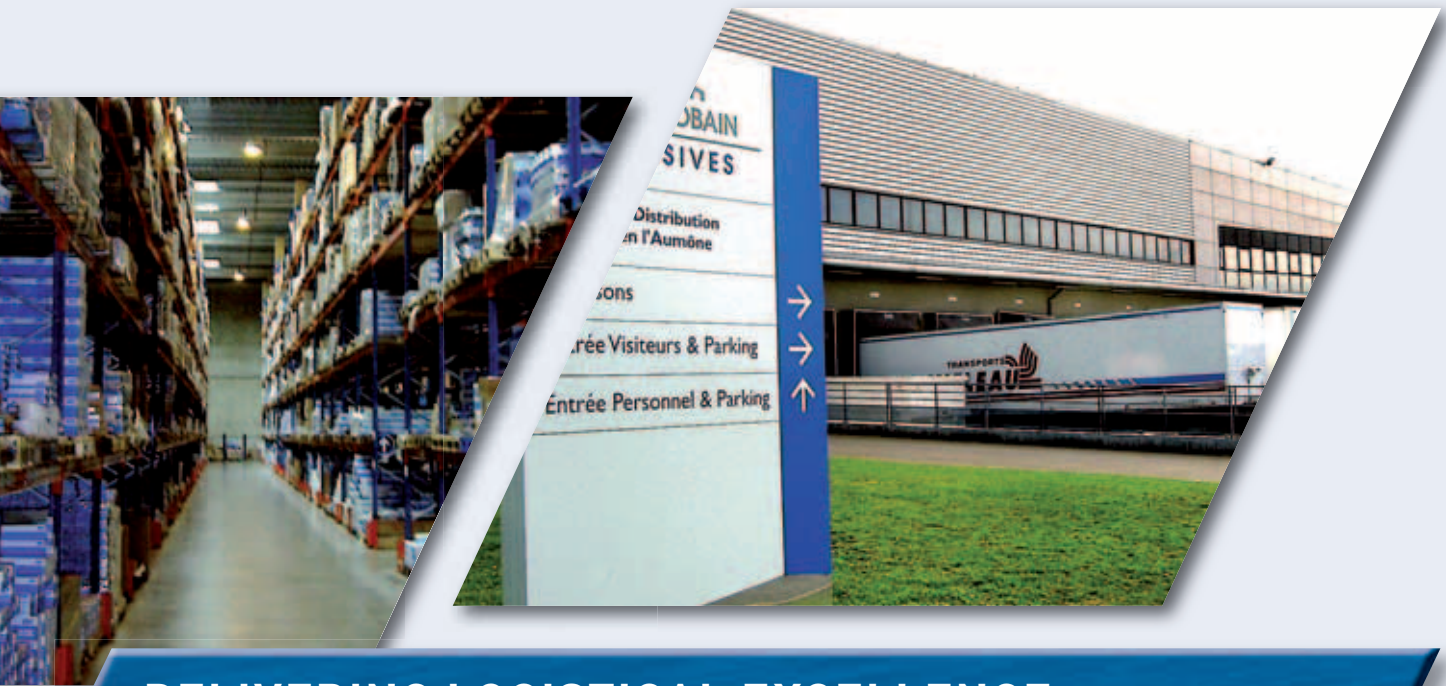
- Waste management is undertaken to optimise recycling activities of materials including paper, carton, wood, production dust, steel, and batteries
- Zero pollution of air, water and land is defined as a major objective

### REDUCTION OF NATURAL RESOURCES CONSUMPTION

- New production processes and procedures are regularly implemented to help minimize the amount of waste created at all manufacturing processes
- Improving process technology and systems is a strong focus to help enhance energy conservation

All Saint-Gobain Abrasives manufacturing facilities implement an Environmental Management System, with most having been certified to the international ISO 14001 standard. The company's objective is to have all the sites certificated with this standard before the end of 2007.

We, at Saint-Gobain Abrasives, seek to achieve environmental excellence in all our business operations.



## DELIVERING LOGISTICAL EXCELLENCE

**In order to confirm Norton's market leading position and support our highly engineered, innovative product solutions, Norton operates a range of ERP and Quality Management systems. This enables continuous improvement of performance at every stage of the logistic chain, through careful effective monitoring of all logistical processes and the subsequent implementation of new technology and best practice procedures.**

Today, Norton has a logistics team of 80 specialised people who are dedicated and focused on satisfying customer requirements. Our planning system, integrated directly with our order processing system, is managed and controlled by a team of forecasting experts who look to maintain and improve our service level (over 97% today).

Reviews are continuously undertaken to improve packaging techniques and new packaging technology is regularly considered, and implemented where appropriate. This ensures customers receive all products in excellent condition.

Norton operates the biggest abrasives distribution centre in Europe with 10,000 m<sup>2</sup> used to stock more than 8,000 product lines in one location. We have more products at our fingertips than any other abrasives manufacturer in the world. Shipping over 4,000 product lines every day and working closely with carefully selected partners, gives us the necessary experience and expertise to provide an unrivalled delivery service to our customers.



## A HISTORY OF EXCELLENCE

**In the mid 19th Century, a group of ceramists and entrepreneurs in Worcester, Massachusetts, USA, set out with a goal: meet the growing need of the burgeoning U.S. manufacturing industry, which needed an ever-increasing supply of grinding wheels to build and maintain machinery.**

By 1876 Norton were manufacturing grinding wheels, and had acquired a patent for vitrified wheels. In 1885 the Norton Emery Wheel Co. was founded to manufacture the first grinding wheel that could be precision made and mass-produced.

Through the latter part of the 19th Century Norton expanded its abrasives range and reached customers throughout the U.S. and Canada. In 1909, Norton built its first European plant in Germany. This was followed by plants in France (1920), UK (1930), and Italy (1935). In the 1930s Norton strengthened its position by expanding into Coated Abrasives. In the same decade Norton developed Diamond and CBN based Super Abrasives.

By 1950 Norton had established itself as the leading world-wide abrasives brand. In 1956, Norton entered South America through an acquisition in Brazil, and followed this with plants in India (1968) and Japan (1972). This steady growth, based upon innovation, technology and responsiveness to customers, has continued and Norton now has a presence in 28 countries around the world.

In 1990, Norton was acquired by Saint-Gobain, a world leader in the manufacture of engineered materials. Saint-Gobain, founded in France in 1665, shares Norton's tradition of commitment to its business and customers, of understanding and responding to the needs of the marketplace and of technical innovation. Saint-Gobain's experience has been a strong addition to the Norton brand.

For over 120 years, Norton has provided innovative solutions for the challenges faced by industries. Our dedication to our business and customers ensures we will continue to be the world's number one abrasive manufacturer supplying a complete range of products that continually add value and efficiency to your operation.



## PATENTS & TRADEMARKS

Norton shows its commitment to innovation by filing Patents & Trademarks for its most innovative product solutions.

**AZTEC®**

**BDX™**

**BEAR-TEX®**

**BLACK ICE™**

**BLUE FIRE™**

**DURATOR®**

**INDIA OIL STONE®**

**MULTI-AIR PROCESS®**

**NO-FIL®**

**NORaX®**

**NORBIDE®**

**NORTON®**

**NORTON INDUSTRIAL LINE™**

**NORTON SG®**

**NORZON®**

**OCTOPUS®**

**ROTOLO® FOAM**

**SOFT-TOUCH®**

**SPEEDLOK®**

**SUPER BLEUE 2™**

**TOROS™**

**VORTEX™**



**Norton, the world's leading abrasives brand, is the key ingredient in an effective portfolio of brands from Saint-Gobain Abrasives. The mission is to deliver a portfolio of highly recognised brands, each with unique value, fulfilling the complete spectrum of customer needs.**

Saint-Gobain Abrasives takes time to understand and fulfil its evolving customer needs which is reflected in its worldwide market leader status. With a strong presence in every continent the Abrasives Division serves its customers through structured units in 26 countries and employs nearly 16,000 people. It is the only international manufacturer of abrasives that provides each of the 3 major types of abrasives; Bonded Abrasives (resinoid and vitrified), Coated Abrasives, and Diamond products. This is supported by exceptional technology, complete and innovative product lines, an irrefutable reputation for quality and safety, and experienced, committed, passionate people.

Abrasives forms a key part of the High Performance Materials Division of Saint-Gobain, which is one of 5 key areas of activity in which Saint-Gobain operate.



  
**SAINT-GOBAIN**  

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**ABRASIVES**

## SAINT-GOBAIN BUSINESS SECTORS

### HIGH-PERFORMANCE MATERIALS

	Abrasives	<b>No.1</b> worldwide
	Ceramics & Plastics	<b>No.1</b> worldwide for thermal & mechanical applications
	Reinforcement	<b>No.1</b> worldwide

### FLAT GLASS

	Flat Glass	<b>No.1</b> in Europe	<b>No.3</b> worldwide
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### PACKAGING

	Packaging	<b>No.1</b> in Europe	<b>No.2</b> worldwide
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### CONSTRUCTION PRODUCTS

	Insulation	<b>No.1</b> worldwide	
	Gypsum	<b>No.1</b> worldwide	
	Pipe	<b>No.1</b> worldwide in cast iron pipe	
	Industrial Mortars	<b>No.1</b> worldwide in wall coatings & glues for tiling	
	Exterior Products	<b>No.1</b> in US for sidings	<b>No.3</b> in US for roofing products

### BUILDING DISTRIBUTION

	Building Distribution	<b>No.1</b> worldwide in tiles distribution	<b>No.1</b> in Europe in building materials distribution & in industrial carpentry
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## HIGH-PERFORMANCE MATERIALS

The High-Performance Materials Sector, enjoys leading positions in all of its businesses and brings together the Ceramics, High-Performance Plastics, Reinforcements & Composites, Textile Solutions, and Abrasives divisions.

## HIGH-PERFORMANCE MATERIALS EMPLOYS

**37,000** people of

**56**  
nationalities

## FLAT GLASS

The Flat Glass Sector covers flat glass manufacturing; processing and distribution of glass for the building and automotive industries; and production of specialty glass, which includes products for home appliances, fireproof glass, nuclear safety glass, glass for photovoltaic systems, and glass for electronics.

**Saint-Gobain  
Sekurit glazes**

**50%** of all  
European cars



## PACKAGING

The Packaging Sector makes glass bottles and jars for foodstuffs and beverages, and glass flasks for perfume and pharmaceutical products.



**30** billion



bottles, flasks and  
jars **manufactured  
each year**



## CONSTRUCTION PRODUCTS

Since the acquisition of British Plaster Board (BPB) in 2005, the Construction Products Sector covers: Insulation, Pipe, Exterior Products, Industrial Mortars and Gypsum operations.



**45,000** employees in more  
than **50** countries



## BUILDING DISTRIBUTION

The Building Distribution Sector is Europe's leading distributor of building materials and the top-ranking distributor of ceramic tiles worldwide.



**3,600** sales outlets in  
**20** countries



## METAL FABRICATION

Norton continues to play a key role in the Metal Fabrication market, delivering hi-tech relevant abrasive solutions for all applications in surface preparation and finishing. Decades of acquired expertise combined with innovative technology allows Norton to offer the most appropriate abrasive solutions for the most common applications, including: ship building, food industry, chemical and oil industries and boiler making.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Cutting sheet metal	Portable Cut-off wheels	Fast cut operation	46
Heavy grinding & deburring	Fibre discs	Agressive cutting	98
Welds grinding & blending	Flap discs	Versatility	104
Grinding & sanding all kind of metals	Narrow belts	High stock removal	172
Light to medium deburring	SpeedLok <sup>®</sup> discs	Long life	192,234
Light to heavy duty cleaning	Unitized wheels	High resistant	248
Finishing of Stainless Steel	NORaX <sup>®</sup> belts	Consistent and predictable surface finish	172
Cleaning & finishing	Flap wheels	Consistent finish	186,244

## NEW PRODUCTS

COATED ABRASIVES	PAGE	CUTTING-OFF & GRINDING WHEELS	PAGE
F975 & F971 Greenlyte Fibre discs	98	1-2-3 wheels	44
R880 Flap discs	104	Octopus <sup>®</sup> Grinding wheels	54
Mini-flexi flap discs	193	0,8mm Ultra-thin Cut-off wheels	46
U242 NORaX <sup>®</sup> belts	172		
R207 Flap wheels	186		



## THE ULTIMATE SOLUTION

**NORaX**  
ENGINEERED ABRASIVES

**NORaX<sup>®</sup> BELTS**

172

An incomparably high performance, high quality product designed specifically for finishing

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## GENERAL ENGINEERING

Norton provides technical solutions for applications from surface grinding to sharpening operations on a range of materials from high alloy to stainless steel. In addition Norton offers technical assistance to help provide optimum performance in application precision, quality of finishing and operation productivity. Typical sectors: mechanical, mould industry, tool industry, aerospace subcontractors and medical prosthesis.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Surface grinding	Vitrified wheels	Cool & burn-free cutting	270
Truing & dressing a wheel	Dressers	Optimises the cutting action & the finish	364
Restoring the cutting edge on tools	India stones	Long lasting cutting edge	312
Internal grinding	CBN wheels	Excellent cutting	342
Surface grinding & finishing	Narrow belts	Quick metal removal & surface finishing	172
Shaping & deburring	Carbide burrs	Long life, reduction of cutting force	208
Light deburring	Coated specialties	Conformability to complex surfaces	200
Surface finishing	Flap wheels	Consistent wear rate, high quality results	186,244
Polishing of moulds	Unitized wheels	From preparatory lapping to finest finishing	248

## NEW PRODUCTS

BONDED ABRASIVES	PAGE	COATED ABRASIVES/BEARTEX®	PAGE
V-Tech Vitrified bonds	264	R980 SpeedLok® discs	192
Vortex™ Grinding wheels	270	BearTex® metal finishing convolute wheels	252
		Film rolls & discs	162
		NORaX® Narrow belts	172
		R309 Narrow belts & rolls	152,176



### THE ULTIMATE SOLUTION

<b>VORTEX</b> <small>technology</small>	<b>VORTEX™ WHEELS</b>	270
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Extreme high performance vitrified Grinding wheels, designed for extreme grinding applications resulting in reduced cycle times & lower costs

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## MAINTENANCE & REPAIR OPERATIONS

From the most advanced and critical operation to the simplest task, Norton provides an effective solution. Customers can benefit from the largest stock range of abrasives available anywhere in Europe. On any material Norton can provide you with a range of cost effective solutions for use by hand or machine.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Sharpening HSS tools	Vitrified bench wheels	Free cutting	284
Light to heavy duty cleaning	BearTex® sheets	Conformability to complex surfaces	222
Light deburring	Handy rolls	Multi-purpose	152,154
Building maintenance	Portable diamond blades	Highly versatile product	378
Cutting pipe	Cut-off wheels	Fast cut	46
Blending welds	Flap discs	Versatile & long lasting	104
Deburring	Mounted points	Precise	302
Removing imperfections	Specialties	Wide range of items for accessing intricate areas	200

## NEW PRODUCTS

COATED ABRASIVES/BEARTEX®			PAGE
Convolute wheels	252	Sanding Stars	205

DIAMOND BLADES/CUTTING-OFF & GRINDING WHEELS			PAGE
4x4 Explorer	378	1-2-3 wheels	44
		Norton multi-purpose cut-off wheels	46



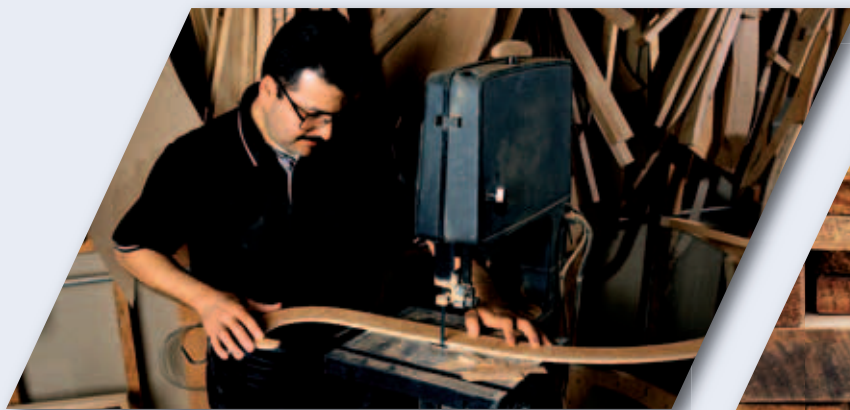
## THE ULTIMATE SOLUTION

### 1-2-3 WHEELS

44

The most versatile wheel on the market. Cutting, light grinding & polishing, all with one single product. No more lost time due to changing machines or products

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## WOODWORKING

Norton has actively developed new solutions with innovative abrasives products in full co-operation with customers over many years. Whatever the machine type is, Norton is in a position to optimise the sanding process. In addition to abrasives dedicated to sophisticated machines, Norton has created a very effective range of tools, easy to use like sponges or sanding block for manual operations. Furthermore, a huge variety of product shapes are available to fit with any particular application that requires specific abrasive types. Typical sectors: carpentry, furniture manufacturer, parquetry (manufacturer and renovation), boat and marine.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Sanding & finishing of wood	Narrow & wide belts	Long life	172,184
Sanding contours	Abrasives sanding sponges	Soft & versatile manual finishing	148
	Narrow belts	Very flexible for machine polishing	172
Re-sharpening saw blade	Vitrified wheel	No burn & straight cut	270
Sanding	Portable belts	Long life	168
Hand sanding	Paper sheets	Load resistant	147
Bare wood sanding	Cloth rolls	Excellent finish	158
Varnished surface sanding	No-Fil® paper discs	Anti-clogging & longer lasting	116
Edges sanding	Polyester narrow belts	Sharp & long lasting belts	172

## NEW PRODUCTS

COATED ABRASIVES/BEARTEX®			PAGE
H835 Blue Fire™ discs & cut sheets	117/137	Multi-Air® discs	110
R309 Narrow belts & rolls	152/176	A275 Norgrip® discs and rolls	118,151



### THE ULTIMATE SOLUTION

**H231**

**NARROW & WIDE BELTS**

**175,184**

These high performance aluminium oxide belts are ideal for any sanding applications, from rough sanding to finishing operations

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.




## FLOOR SANDING

Norton leads the development of abrasive technology in this market through innovations such as Norton Red Heat R955 with New generation SG<sup>®</sup> grain which provides the optimum productivity at the lowest cost.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Drum sanders	Sheets & rolls	Easy to use, load resistant	144,150
Belt sanders	Belts	Ideal cost/benefit ratio	172
Edger sanders	Discs	Time-saving	116
Buffer sanders	Screen-bak <sup>®</sup> & Double-sided discs	Anti-clogging for a perfect finish	132,134

## NEW PRODUCTS

COATED ABRASIVES/BEARTEX <sup>®</sup>	PAGE
Red Heat R955 Narrow belts	174
Blue Fire <sup>™</sup> H835 double-sided discs	134



### THE ULTIMATE SOLUTION

<small>NORTON SG</small> <b>REDHEAT</b>	RED HEAT R955 NARROW BELTS	174
These polyester backed belts are extremely strong & ideal for floor sanding. There's no need to look for any other product when sanding hard wood		

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## FOUNDRY

Norton holds significant expertise in the foundry applications by conducting thorough analysis of the complete abrasive process to help maximize productivity. The products offered are capable of providing incomparable solutions for the most demanding applications in the industry. Typical sectors: aerospace, automotive and medical prosthesis.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Deburring	Grinding wheels	High stock removal rate	70
Removing cracks	Resin bond wheel	Fast operation	332
Shaping & deburring	Carbide burrs	Fast cutting	208
Gate removal	Supersize Narrow belts	Cool cut for heat sensitive metal	172
	Resin mounted wheels	High stock removal rate	336
Cutting-off	Large Cut-off wheels	Free cutting	326

## NEW PRODUCTS

COATED ABRASIVES/BEARTEX®	PAGE	BONDED ABRASIVES	PAGE
R980 Narrow belts	178	Toros™ non reinforced Cut-off wheels	326
Tungsten carbide burrs	208		

CUTTING-OFF & GRINDING WHEELS	PAGE
Norzon® Plus Grinding wheels	70

## THE ULTIMATE SOLUTION

	<b>R980 NARROW BELTS</b>	<b>178</b>
Uses 100% premium SG® abrasive to deliver superior performance both in terms of metal removal rate & product life		

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## RAIL

Rail track is continuously subjected to high stress as a result of the millions of tons of train riding over them each year. Norton makes significant investment in the research and development of all abrasive applications encountered in the rail industry ensuring it continues to offer the most suitable range of abrasive products that focus on providing effective, accurate and safe results. Norton's products for the rail industry are each specifically designed to take into account the hardness of the metal used and the unique shape of rail track.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Cutting rail	Cut-off wheels	White & straight cuts	68
Deburring rails	Grinding wheels	Weld preparation	54
Grinding rails	Organic cup wheel	Excellent preparation of the rail before welding	332
Finishing welds	Organic straight wheel	Fast operation	332

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## TOOL ROOM

The maintenance and repair of cutting tools is common place in almost every manufacturing plant. Norton has a range of highly effective solutions suitable for tool room cutting and sharpening operations.

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Sharpening cemented carbide cutting tools	Diamond wheels	High removal rate could be used wet or dry	342
Cutting drill nits	Non-Reinforced Cut-off wheels	Produce minimal burr & burn	326
Sharpening HSS cutting tools	CBN wheels	Free cutting	342
Sharpening tools	Vitrified dishes & cups	High removal rate & extended product life	286,290

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## GLASS

Norton offers innovative technological solutions with coated and non-woven abrasives, and supplies a full range of products to cover the various needs for glass converting and finishing operations. Norton has been successful in adapting and evolving its products to match customer's processes in order to meet the most stringent surface quality standards on any type of machine designed for the Glass market.

**Typical sectors: safety and special glass, building and furniture glass.**

APPLICATIONS	PRODUCT GROUP	MAIN BENEFITS	PAGE
Edge grinding	Narrow belts	High resistant & long life	172
	Cross belts	High quality & resistant	172
Edge finishing	Cork belts	High finishing quality	175
Superfinishing operation	Flexible wheels	Extreme surface finish	MTO
Removal coating after cutting	Convolute wheels	High performance	252

## NEW PRODUCTS

COATED ABRASIVES	
NORaX® U466 & U366	172



### THE ULTIMATE SOLUTION

	<b>U366 NORaX® NARROW BELTS</b>	172
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Gives the ultimate surface finish that can ever be achieved. The grit X5 is ideal for final finishing of glass edges

For more information about Norton Abrasive Solutions, and to discuss our made-to-order capabilities don't hesitate to contact your local Customer Service Department.



## THE NORTON PRODUCT TIERING CONCEPT

To help compare and contrast the performance and price level of each Norton product line, the tiering system of Best, Better, Good is used. This is designed to help you choose the right product and to gain the appropriate level of performance for your application.

<b>INNOVATION BEST</b>	Norton's innovative abrasive solutions offer outstanding productivity and versatility. For further information about these products please contact your local Sales Representative.	<b>BETTER</b>	The core lines of Norton. These products provide high performance solutions with high levels of productivity delivering low abrasive costs.
<b>BEST</b>	Norton's high performance, high technology products are designed to add value to abrasive applications, providing exceptional performance. The high performing nature of these products mean they deliver the lowest possible operating costs.	<b>GOOD</b>	For users who are looking for Norton quality products, with consistent above average performance, and competitive prices.

## THE CATALOGUE STRUCTURE



The Norton product line is segmented into easy-to-use, colour-coded sections – Cutting-off & Grinding wheels, Coated Abrasives, BearTex® (Non-woven) Abrasives, Bonded Abrasives, Super Abrasives and Diamond Blades. Each of these sections are divided into sub-sections and are categorised by product type, machine type or application.

The first part of each sub-section is designed to help you find the right product – each product is categorised by Best, Better, Good, and is supported by key features & benefits, applications & markets and selection tables.



The second part of each sub-section comprises of product tables – designed to give quick and easy product reference details. The tables are arranged by product type or application (for Diamond Blades and Cutting-Off and Grinding Wheels). The Best, Better, Good concept is repeated to bring clear product comparison. Dimensions, grit, pack quantity and product codes are clearly displayed. In addition, Product Selection charts serve as a quick reference guide to the range. ‘Spec Checks’ also give helpful information on specific products or range benefits.

Technical and Safety information for each of the core product types is included in a separate section at the back of the catalogue.



## HOW TO ORDER

Please contact your local Customer Service Centre, details can be found on the back page of the catalogue. For countries that are not listed please send your request to our European Headquarters.

**When placing an order it helps to have the following information available:**

Your name

Your account number

Your order or reference number

Product article number/s

Required quantity

Any special instructions

If you require additional product or technical information then please do not hesitate to contact your local Customer Service or Sales Representative.

**For prices and terms of sale please refer to the price list.**



**NORTON**

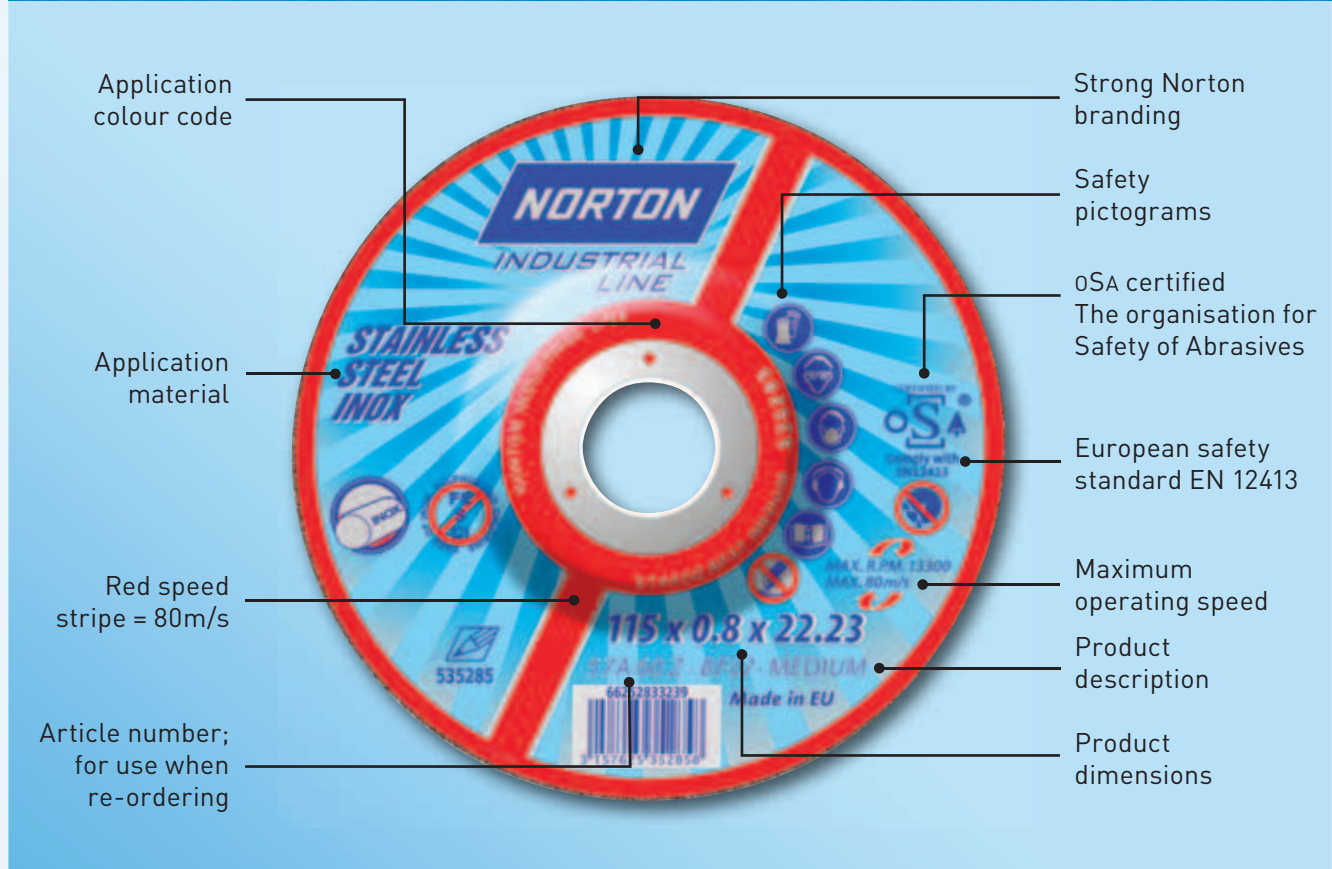
- 42 INTRODUCTION
- 44 NORTON 1-2-3
- 46 CUTTING-OFF WHEELS - ANGLE GRINDERS
- 54 GRINDING WHEELS - ANGLE GRINDERS
- 60 WHEELS FOR STRAIGHT GRINDERS
- 62 WHEELS FOR PETROL SAWS
- 64 WHEELS FOR CHOP SAWS
- 66 WHEELS FOR STATIONARY MACHINES
- 68 WHEELS FOR RAIL
- 70 WHEELS FOR FOUNDRY

# Cutting-Off & Grinding Wheels





The Norton range of cutting-off and grinding wheels for portable and fixed machines provide superior performance in the most stringent working environment. The product range includes state-of-the-art solutions for cutting-off, grinding, and surface finishing operations on any materials related to industrial fabrication markets.

Norton, the industry's most comprehensive cutting-off and grinding product line.

## UNDERSTANDING THE PRODUCT



## SHAPE SPECIFICATION SYSTEM

BF 27	BF 29	BF 41	BF 42
 <p>Depressed centre grinding wheels. Available in diameters 76-230mm for hand-held machines</p>	 <p>Depressed centre grinding wheels. Available in diameters 115mm &amp; 125mm for hand-held machines</p>	 <p>Flat cutting-off wheels. Available in diameters 40-400mm for hand-held machines &amp; 250-400mm for stationery machines</p>	 <p>Depressed centre cutting-off wheels. Available in diameters 76-230mm for hand-held machines</p>
Application: grinding	Application: grinding	Application: cutting-off	Application: cutting-off

All Norton products are designed to be operator friendly with high safety standards to satisfy the requirements of all professional users.

For further information please go to the Technical Information Section at the back of this catalogue.

## DIFFERENTIATION IN THE RANGE

Norton offers the industry's widest selection of cutting-off and grinding wheels designed to meet every customer's requirement. The range is classified into 3 tiers (Best/ Better/ Good) to help you choose the right product for your specific application.

<b>INNOVATION BEST</b>	With unparalleled abrasive technology, Norton provides optimum solutions with innovative products dedicated to industrial applications	<b>BETTER</b>	Norton Industrial Line grinding & cutting-off wheels are extensively used across a range of industries including aerospace, automotive, foundries, fabrication, ship-building & construction. This wide range of products return industry leading price/performance ratios delivering lower costs
<b>BEST</b>	Norton offers premium quality ranges of conventional zirconia (NorZon) & aluminium oxide (X-Treme life) abrasive grinding & cutting-off wheels. These ranges have been developed to meet the demands of the most discerning users. NorZon Quick Cut & X-Treme life ensure outstanding cutting speed & stock removal rates combined with exceptional long life meaning lower operating costs	<b>GOOD</b>	Norton's BDX Line gives above average performance for grinding & cutting-off operations on a wide range of materials, including steel, stainless steel, cast iron & stone

	INNOVATION	BEST	BETTER	GOOD
METAL 				
INOX 				
METAL INOX 				
ALU METAL INOX STONE C/TILES PVC 				
ALU 				
STONE 				
RAIL 				
CAST IRON METAL INOX 				

1 Cutting, 2 Grinding, 3 Polishing

Cutting, light grinding and polishing, all with one single product?

The new Norton 1-2-3 makes it possible!  
No more lost time due to machine or product changing.

### APPLICATIONS & MARKETS

- Aerospace
- Automotive
- Construction
- Fabrication
- Foundry
- Rail industry
- Ship-building



INNOVATION

BEST

## NORTON 1-2-3

METAL INOX

Type 42

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Cutting, light grinding &amp; polishing with one single product</li> <li>■ Fine grit</li> <li>■ Low vibration</li> <li>■ Three layered strong reinforcement</li> <li>■ Free of iron, sulphur &amp; chlorine</li> </ul>	<ul style="list-style-type: none"> <li>■ No more lost time due to machine or product changing</li> <li>■ Excellent &amp; uniform finishing result</li> <li>■ Comfortable working</li> <li>■ Operator friendly</li> <li>■ Maximum safety</li> <li>■ No contamination</li> </ul>

<span style="font-size: 24px; font-weight: bold;">METAL INOX</span>				
DIA (mm)	TxB (mm)	PK QTY	INNOVATION	BEST
			1-2-3 A 46 S-BF	
115	2,2x22,23	25		66252829704
125	2,2x22,23	25		66252921592

Dimensions Key: DIA = Diameter, T = Thickness, B = Bore



**ALL-IN-ONE SOLUTION!**



Norton's wide range of cutting wheels for angle grinders provide high value and high performance industrial solutions.

### APPLICATIONS & MARKETS

- Aerospace
- Automotive
- Construction
- Fabrication
- Foundry
- Rail industry
- Ship-building



## MULTI-PURPOSE

ALU  
METAL  
INOX  
STONE  
C.TILES  
PVC



Type 41



### FEATURES

- Cuts all materials
- Ultra thin
- Low vibration
- Unique construction
- Free of iron

### BENEFITS

- No more time loss due to machine or product changing
- Quicker cutting
- Less noise, less dust, less material loss
- Extremely precise straight cuts with burr-free results
- Reduced energy consumption
- Comfortable working
- Counteracts loading & wheelglazing when cutting non-ferrous or plastics
- No contamination



## 0.8MM ULTRA THIN

METAL  
INOX



Type 42



### FEATURES

- 0.8mm thickness
- Low vibration
- Free of iron, sulphur & chlorine

### BENEFITS

- Extremely precise & clean cuts
- Excellent manoeuvrability & extremely fast cutting
- Less noise, less dust, less sparks, less material loss
- Optimised for material thickness less than 2.0mm
- Reduced energy consumption
- Comfortable working
- No contamination



INNOVATION  
BEST

**BEST**

## NORZON QUICK CUT

METAL INOX



Type 41

Type 42



### FEATURES

- Premium combination of zirconia grain & an advanced bond system
- Free of iron, sulphur & chlorine

### BENEFITS

- Superior performance compared to standard aluminum oxide wheels
- Highest productivity & lowest cost per cut
- Optimised for thick applications
- High stability for easy & comfortable cutting
- No contamination



## X-TREME LIFE

METAL INOX



Type 41

Type 42



### FEATURES

- Premium aluminium oxide grain in combination with an advanced bond system
- Free of iron, sulphur & chlorine

### BENEFITS

- Ultra long product life & extremely quick cutting
- Optimised for powerful machines
- Easy to use
- No contamination



**BETTER**

## INDUSTRIAL LINE

METAL INOX



Type 41

Type 42



### FEATURES

- Advanced grain & bond system
- Suitable for steel & stainless steel applications
- Free of iron, sulphur & chlorine

### BENEFITS

- Longer product life & quicker cutting
- No more time loss due to machine or product changing
- No contamination



INOX



Type 41

Type 42



### FEATURES

- Advanced grain & bond system
- Free of iron, sulphur & chlorine

### BENEFITS

- Longer product life & quicker cutting
- No contamination



BETTER

## INDUSTRIAL LINE (CONTINUED)

ALU



Type 41



### FEATURES

- Unique grain & bond system optimised for non-ferrous

### BENEFITS

- Counteracts loading & wheelglazing when cutting non-ferrous
- Longer product life & quicker cutting



STONE



Type 41

Type 42



### FEATURES

- Sharp silicon carbide grains

### BENEFITS

- Optimised to cut stone, bricks, concrete & asphalt
- Longer product life & quicker cutting



GOOD

## BDX

METAL INOX



Type 41

Type 42



### FEATURES

- Suitable for steel & stainless steel applications
- Free of iron, sulphur & chlorine

### BENEFITS

- No more time loss due to machine or product changing
- No contamination



STONE



Type 41

Type 42



### FEATURES

- Sharp silicon carbide grains

### BENEFITS

- Suitable for cutting stone, bricks, concrete & asphalt



STONE TILES



Type 41



### FEATURES

- Sharp silicon carbide grains
- Ultra thin

### BENEFITS

- Suitable for cutting tiles
- Less noise, less dust, less material loss
- Extremely precise cut with reduced energy consumption




# PRODUCT SELECTION



USAGE KEY	Multi-Purpose C46T-BF41	Multi-Purpose C60T-BF41	0.8mm Ultra Thin	NorZon Quick Cut	X-Treme Life A24R	X-Treme Life A36V	X-Treme Life A46V	X-Treme Life A60V	Industrial Line Metal-Inox	Industrial Line Inox	Industrial Line Non-ferrous	Industrial Line Stone	BDX Metal-Inox	BDX Stone	BDX Tile
	INNOVATION			BEST				BETTER			GOOD				
	BEST			BEST				BETTER			GOOD				
Steel, construction steel	Highly recommended	Highly recommended	Recommended	Highly recommended	Highly recommended	Highly recommended	Recommended	Recommended	Highly recommended	Recommended			Highly recommended		
Low-alloy steel	Highly recommended	Highly recommended	Recommended	Highly recommended	Highly recommended	Highly recommended	Recommended	Recommended	Highly recommended	Recommended			Highly recommended		
High-alloy steel	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Recommended	Recommended	Highly recommended	Highly recommended	Recommended	Highly recommended			Highly recommended		
Thin sheets, plates profiles	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Recommended	Recommended	Highly recommended	Highly recommended	Highly recommended	Recommended			Highly recommended		
Stainless steel, Inox	Highly recommended	Highly recommended	Highly recommended	Highly recommended	Recommended	Recommended	Highly recommended	Highly recommended	Highly recommended	Highly recommended			Recommended		
Cast iron				Highly recommended	Highly recommended	Highly recommended						Recommended		Highly recommended	
Non-ferrous	Highly recommended	Highly recommended					Recommended	Recommended			Highly recommended	Recommended		Highly recommended	
Titanium	Highly recommended	Highly recommended					Recommended	Recommended			Highly recommended	Highly recommended		Highly recommended	
Stone, concrete	Highly recommended	Highly recommended										Highly recommended		Highly recommended	Highly recommended
Tiles, ceramic	Highly recommended	Highly recommended										Recommended		Highly recommended	Highly recommended
Glass, plastic, pvc	Highly recommended	Highly recommended													




			METAL INOX				
			0.8MM ULTRA THIN	NorZon QUICK CUT	XTREM	INDUSTRIAL LINE	BDX
DIA (mm)	TxB (mm)	PK QTY	INNOVATION BEST	BEST		BETTER	GOOD
 Type 41							
100	1,6x16,0	25		66252951007		66252829945	
	2,0x16,0	25				66252950985	66252829395
115	1,0x22,23	25		66252829663	66252919427	66252829482	66252831452
	1,6x22,23	25		66252829496	66252920339	66252829764	66252831451
	2,0x22,23	25		66252831458	66252920340	66252829927	66252831456
	2,5x22,23	25			66252921564		66252831454
125	1,0x22,23	25		66252832682	66252920341	66252829925	66252831541
	1,6x22,23	25		66252829577	66252920342	66252829572	66252831460
	2,0x22,23	25		66252831463	66252920343	66252829928	66252831462
	2,5x22,23	25		66252833117	66252920350		66252831461
150	1,6x22,23	25			66252920344		
	2,0x22,23	25		66252833118			66252832741
	2,5x22,23	25		66252921570		66252829923	66252832948
180	1,6x22,23	25		66252832870	66252920345	66252829946	66252832631
	2,0x22,23	25		66252831469	66252920346	66252829929	66252831468
	2,5x22,23	25		66252832734	66252920347	66252829932	66252831466
230	1,9x22,23	25		66252832683	66252920348	66252829926	66252832686
	2,0x22,23	25		66252831478	66252920351	66252829488	66252831476
	2,5x22,23	25		66252831474	66252920349	66252829934	66252831471
 Type 42							
100	2,5x16,0	25				66252829948	66252831497
	3,2x16,0	25		66252831502		66252829950	66252831500
115	0,8x22,23	25	66252833239				
	2,5x22,23	25		66252831506	66252921567	66252829930	66252831504
125	3,2x22,23	25		66252831510	66252921568	66252829769	66252831508
	0,8x22,23	25	66252833240				
	2,5x22,23	25		66252831516	66252918816	66252829931	66252831513
150	3,2x22,23	25		66252831519	66252918819	66252829936	66252831517
	2,5x22,23	25		66252832730			66252832738
180	3,2x22,23	25		66252832731		66252829951	66252832632
	2,5x22,23	25		66252831524	66252918817	66252829933	66252831522
230	3,2x22,23	25		66252831527	66252918820	66252829770	66252831525
	2,5x22,23	25		66252831529	66252918818	66252829935	66252831494
	3,2x22,23	25		66252831532	66252918821	66252829771	66252829430

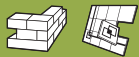
Dimensions Key: DIA = Diameter, T = Thickness, B = Bore

			<b>MULTI-PURPOSE</b>	
			<b>MULTI-PURPOSE</b>	
DIA (mm)	TxB (mm)	PK QTY	<b>INNOVATION</b>	<b>BEST</b>
			C 46 T-BF41	C 60 T-BF41
 <b>Type 41</b>				
115	1,0x22,23	25		662528 <b>33258</b>
	1,6x22,23	25	662528 <b>28951</b>	
125	1,0x22,23	25		662529 <b>18924</b>
	1,6x22,23	25	662528 <b>28952</b>	
180	1,6x22,23	25	662529 <b>26730</b>	
230	1,9x22,23	25	662529 <b>18925</b>	

			<b>INOX</b>	
			<b>INDUSTRIAL LINE</b>	
DIA (mm)	TxB (mm)	PK QTY	<b>BETTER</b>	
 <b>Type 41</b>				
115	1,0x22,23	25	662528 <b>29964</b>	
	1,6x22,23	25	662528 <b>29966</b>	
125	1,0x22,23	25	662528 <b>29965</b>	
	1,6x22,23	25	662528 <b>29967</b>	
180	1,6x22,23	25	662528 <b>29981</b>	
	2,5x22,23	25	662528 <b>29970</b>	
230	1,9x22,23	25	662528 <b>29968</b>	
	2,5x22,23	25	662528 <b>29971</b>	
 <b>Type 42</b>				
100	3,2x16,0	25	662528 <b>29982</b>	
115	3,2x22,23	25	662528 <b>29768</b>	
125	3,2x22,23	25	662528 <b>29757</b>	
180	3,2x22,23	25	662528 <b>29974</b>	
230	3,2x22,23	25	662528 <b>29437</b>	



			<b>ALUMINIUM</b>	
			<b>INDUSTRIAL LINE</b>	
DIA (mm)	TxB (mm)	PK QTY	<b>BETTER</b>	
 <b>Type 41</b>				
115	1,6x22,23	25	662528 <b>29984</b>	
125	1,6x22,23	25	662528 <b>29985</b>	
180	2,5x22,23	25	662528 <b>29983</b>	
230	1,9x22,23	25	662528 <b>29986</b>	
	2,5x22,23	25	662528 <b>29987</b>	





## STONE/TILES



			<b>INDUSTRIAL LINE</b>	<b>BDX</b>	
DIA (mm)	TxB (mm)	PK QTY	BETTER	GOOD	
			STONE MEDIUM	STONE	TILE
			Type 41		
100	3,0x16,0	25		66252831450	
115	1,6x22,23	25			66252832952
	2,5x22,23	25	66252829891	66252832941	
	3,0x22,23	25		66252831459	
125	1,6x22,23	25			66252832953
	2,5x22,23	25	66252829892	66252832942	
	3,0x22,23	25		66252831464	
150	2,5x22,23	25	66252829907		
180	2,5x22,23	25	66252829893	66252832945	
	3,0x22,23	25		66252831470	
230	2,5x22,23	25	66252829894	66252832848	
	3,0x22,23	25		66252831480	
			Type 42		
100	2,5x16,0	25		66252831498	
	3,2x16,0	25		66252831501	
115	2,5x22,23	25		66252831505	
	3,2x22,23	25	66252829896	66252831509	
125	2,5x22,23	25		66252831515	
	3,2x22,23	25	66252829897	66252831518	
150	2,5x22,23	25		66252832739	
	3,2x22,23	25		66252832740	
180	2,5x22,23	25		66252831523	
	3,2x22,23	25		66252831526	
230	2,5x22,23	25		66252831495	
	3,2x22,23	25	66252829898	66252831496	



Dimensions Key: DIA = Diameter, T = Thickness, B = Bore



Norton's wide range of grinding wheels for angle grinders provide high value and high performance industrial solutions.

### APPLICATIONS & MARKETS

- Aerospace
- Automotive
- Construction
- Fabrication
- Foundry
- Rail industry
- Ship-building



INNOVATION  
BEST

## OCTOPUS

METAL  
INOX



Type 29



### FEATURES

- Unique patterned face
- Viewable surface
- Grinding & polishing with one product
- 2 grit sizes
- Low vibration
- No backing pad needed

### BENEFITS

- Prevents loading
- Cooler operation
- Gives complete vision of the grinding zone
- More effective as less rework needed
- Reduces heat on the workpiece
- No more lost time due to machine or product changing
- 36 grit for stock removal
- 60 grit for polishing
- Comfortable working
- Easy mounting



## NORZON QUICK CUT

METAL  
INOX



Type 27



### FEATURES

- Premium combination of zirconia grain & an advanced bond system
- Q-Soft
- R-Medium
- S-Hard
- Free of iron, sulphur & chlorine

### BENEFITS

- Superior performance compared to standard aluminum oxide wheels
- Highest productivity means lowest operating cost
- Easy & comfortable grinding
- Fast material removal
- Optimised for universal applications
- Long product life
- No contamination



BETTER

INDUSTRIAL LINE

METAL  
INOX



FEATURES

- Advanced grain & bond system
- Suitable for steel & stainless steel applications
- Free of iron, sulphur & chlorine

BENEFITS

- Longer product life & faster material removal
- No more time loss due to machine or product changing
- No contamination



INOX



FEATURES

- Advanced grain & bond system
- Free of iron, sulphur & chlorine

BENEFITS

- Longer product life & faster material removal
- No contamination



ALU



FEATURES

- Unique grain & bond system optimised for non-ferrous

BENEFITS

- Counteracts loading & wheelglazing when cutting non-ferrous
- Longer product life & faster material removal



STONE



FEATURES

- Sharp silicon carbide grains

BENEFITS

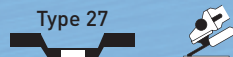
- Optimised performance on all stone applications
- Longer product life & faster material removal



GOOD

BDX

METAL  
INOX



FEATURES

- Suitable for steel & stainless steel applications
- Free of iron, sulphur & chlorine

BENEFITS

- No more time loss due to machine or product changing
- No contamination



STONE



FEATURES

- Sharp silicon carbide grains

BENEFITS

- Optimised to grind all stone applications



## PRODUCT SELECTION

USAGE KEY	Octopus A36T-BF29	Octopus A60T-BF29	NorZon Quick Cut S-Hard	NorZon Quick Cut R-Medium	NorZon Quick Cut Q-Soft	Industrial Line Metal-Inox Medium	Industrial Line Metal-Inox Soft	Industrial Line Inox	Industrial Line Non-ferrous	Industrial Line Stone	BDX Metal-Inox	BDX Stone
	INNOVATION		BEST			BETTER			GOOD			
	BEST		BEST			BETTER			GOOD			
Steel, construction steel												
Low-alloy steel												
High-alloy steel												
Stainless steel, Inox												
Cast iron												
Non-ferrous												
Titanium												
Stone, concrete												











**METAL INOX**




			<b>OCTOPUS</b>		<b>NorZon</b> QUICK CUT			<b>INDUSTRIAL LINE</b>		<b>BDX</b>
DIA (mm)	TxB (mm)	PK QTY	INNOVATION		BEST			BETTER		GOOD
			A 36 T-BF29	A 60 T-BF29	S-HARD	R-MEDIUM	Q-SOFT	MEDIUM	SOFT	
 <b>Type 27</b>										
100	4,0x16,0	25								66252831398
	4,6x16,0	25				66252833116		66252950987		
	6,5x16,0	10								66252831400
	7,0x16,0	25			66252831404	66252831403		66252829953	66252950989	
115	4,0x22,23	25								66252831406
	4,6x22,23	25				66252832729		66252829939		
	6,5x22,23	10								66252831408
125	7,0x22,23	25			66252831413	66252831412		66252829483	66252829484	
	4,0x22,23	25			66252832684	66252950962				66252829766
	4,6x22,23	25				66252829673		66252829937		
	6,5x22,23	10								66252831415
150	7,0x22,23	25			66252831422	66252831421	66252832747	66252829485	66252829922	
	4,6x22,23	25				66252832732				
	6,5x22,23	10								66252832633
180	7,0x22,23	25			66252832733	66252833119		66252829954		
	4,0x22,23	25			66252832871	66252950963				66252829477
	4,6x22,23	25				66252831429		66252829938		
	6,5x22,23	10								66252831431
	7,0x22,23	25			66252831434	66252831433	66252832745	66252829486	66252829487	
230	8,0x22,23	20						66252829940		
	9,0x22,23	15						66252829955		
	4,0x22,23	25			66252832685	66252950964				66252831439
	4,6x22,23	25				66252831438				
	6,5x22,23	10								66252831440
	7,0x22,2	25				66252831446				
Type 29	7,0x22,23	25			66252831447		66252832746	66252829489	66252829490	
	8,0x22,23	20						66252830004		
 <b>Type 29</b>										
115	4,0x22,23	20	66252829991	66252829992						
125	4,0x22,23	20	66252829993	66252829994						

**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore

 <b>INOX</b> 		
<b>INDUSTRIAL LINE</b>		
DIA (mm)	TxB (mm)	PK QTY
 Type 27		
100	7,0x16,0	25
115	7,0x22,23	25
125	7,0x22,23	25
180	7,0x22,23	25
	8,0x22,23	20
230	7,0x22,23	25
	8,0x22,23	20

 <b>ALUMINIUM</b> 		
<b>INDUSTRIAL LINE</b>		
DIA (mm)	TxB (mm)	PK QTY
 Type 27		
125	7,0x22,23	25
180	7,0x22,23	25
230	7,0x22,23	25

 <b>STONE</b> 		
<b>INDUSTRIAL LINE</b>		<b>BDX</b>
DIA (mm)	TxB (mm)	PK QTY
 Type 27		
100	6,5x16,0	10
115	6,5x22,23	10
125	6,5x22,23	10
150	6,5x22,23	10
180	6,5x22,23	10
	7,0x22,23	25
230	6,5x22,23	10
	7,0x22,23	25



**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore



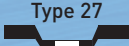
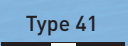







# WHEELS FOR STRAIGHT GRINDERS

Norton's wide range of cutting and grinding wheels for straight grinders provide high value and high performance industrial solutions.

## APPLICATIONS & MARKETS

- Aerospace
- Automotive
- Construction
- Fabrication
- Foundry
- Rail industry
- Ship-building

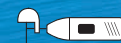





BETTER	INDUSTRIAL LINE			 Type 27  Type 41  Type 42			  
	METAL INOX	 					
	<b>FEATURES</b>	<b>BENEFITS</b>					
	<ul style="list-style-type: none"> <li>■ Advanced grain &amp; bond system</li> </ul>	<ul style="list-style-type: none"> <li>■ Longer product life &amp; quicker cutting &amp; grinding</li> </ul>					
	<ul style="list-style-type: none"> <li>■ Suitable for steel &amp; stainless steel applications</li> </ul>	<ul style="list-style-type: none"> <li>■ No more lost time due to machine or product changing</li> </ul>					
	<ul style="list-style-type: none"> <li>■ 2 external full reinforcements</li> </ul>	<ul style="list-style-type: none"> <li>■ Maximum safety</li> <li>■ High stability for straight cuts</li> </ul>					
	<ul style="list-style-type: none"> <li>■ Free of iron, sulphur &amp; chlorine</li> </ul>	<ul style="list-style-type: none"> <li>■ No contamination</li> </ul>					
	<ul style="list-style-type: none"> <li>■ 6mm ultra thick type 41 wheels available</li> </ul>	<ul style="list-style-type: none"> <li>■ Can be used for cutting &amp; grinding</li> </ul>					





**METAL INOX**



			<b>INDUSTRIAL LINE</b>	
DIA (mm)	TxB (mm)	PK QTY	BETTER	
			HARD	MEDIUM
			<b>Type 27</b>	
76	7,0x10,0	10		662528 <b>29952</b>
			<b>Type 41</b>	
50	1,0x6,35	50	662435 <b>78272</b>	
	1,6x6,35	25		662435 <b>78274</b>
	6,0x6,35	10		662528 <b>29875</b>
63	1,0x6,35	50	662528 <b>29956</b>	
	1,6x6,35	25		662528 <b>29876</b>
	2,5x6,35	25		662529 <b>25546</b>
	6,0x6,35	10		662528 <b>29877</b>
	1,0x10,0	50	662528 <b>29878</b>	
	1,6x10,0	25		662528 <b>31132</b>
	2,5x10,0	25		662528 <b>29879</b>
	6,0x10,0	10		662528 <b>29880</b>
76	1,0x6,35	50	662528 <b>29941</b>	
	1,6x6,35	25		662528 <b>29943</b>
	2,5x6,35	25		662528 <b>29881</b>
	6,0x6,35	10		662528 <b>29882</b>
	1,0x8,0	50	662528 <b>29883</b>	
	1,6x8,0	25		662528 <b>29884</b>
	2,5x8,0	25		662528 <b>29885</b>
	6,0x8,0	10		662528 <b>29886</b>
	1,0x10,0	50	662528 <b>29957</b>	
	1,6x10,0	25		662528 <b>29944</b>
	2,5x10,0	25		662528 <b>30429</b>
	3,2x10,0	25		662528 <b>29949</b>
	6,0x10,0	10		662528 <b>29887</b>
100	1,0x10,0	25	662528 <b>29888</b>	
	1,6x10,0	25		662528 <b>29767</b>
			<b>Type 42</b>	
76	2,5x10,0	25		662528 <b>29947</b>

**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore



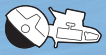


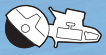
# WHEELS FOR PETROL SAWS



Norton's wide range of cutting wheels for petrol saws provide high value and high performance industrial solutions.



## APPLICATIONS & MARKETS

- Construction
- Fabrication
- Foundry
- Rail industry



INDUSTRIAL LINE	
METAL 	Type 41  
BETTER	INDUSTRIAL LINE
<b>FEATURES</b>	<b>BENEFITS</b>
<ul style="list-style-type: none"> <li>■ Advanced grain &amp; bond system</li> <li>■ 2 external full reinforcements</li> <li>■ 80 m/s for 300mm</li> <li>■ 100 m/s for 350mm</li> </ul>	<ul style="list-style-type: none"> <li>■ Longer product life</li> <li>■ Quick &amp; free cutting</li> <li>■ Maximum safety</li> <li>■ High stability for straight cuts</li> <li>■ Designed for petrol &amp; electrical saws</li> </ul>
STONE 	Type 41  
<b>FEATURES</b>	<b>BENEFITS</b>
<ul style="list-style-type: none"> <li>■ Sharp silicon carbide grains</li> <li>■ 2 external full reinforcements</li> <li>■ 80 m/s for 300mm</li> <li>■ 100 m/s for 350mm</li> </ul>	<ul style="list-style-type: none"> <li>■ Optimised to cut stone, bricks, concrete &amp; asphalt</li> <li>■ Longer product life &amp; quicker cutting</li> <li>■ Maximum safety</li> <li>■ High stability for straight cuts</li> <li>■ Designed for petrol &amp; electrical saws</li> </ul>

 <b>METAL</b> 			
<b>INDUSTRIAL LINE</b>			
DIA (mm)	TxB (mm)	PK QTY	BETTER
Type 41			
300	3,8x20,0	10	662528 <b>29491</b>
	3,8x22,23	10	662528 <b>29914</b>
	3,8x25,4	10	662528 <b>29753</b>
350	3,8x20,0	10	662528 <b>29915</b>
	3,8x22,23	10	662528 <b>29916</b>

 <b>STONE</b> 			
<b>INDUSTRIAL LINE</b>			
DIA (mm)	TxB (mm)	PK QTY	BETTER
Type 41			
300	3,8x20,0	10	662528 <b>29900</b>
	3,8x22,23	10	662528 <b>29901</b>
	3,8x25,4	10	662528 <b>29902</b>
350	3,8x20,0	10	662528 <b>29903</b>
	3,8x22,23	10	662528 <b>29904</b>



**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore

# WHEELS FOR CHOP SAWS

Norton's wide range of cutting wheels for chop saws provide high value and high performance industrial solutions.

## APPLICATIONS & MARKETS

- Construction
- Fabrication
- Foundry
- Maintenance



BETTER

## INDUSTRIAL LINE

**METAL**

Type 41

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Advanced grain &amp; bond system</li> </ul>	<ul style="list-style-type: none"> <li>■ Longer product life</li> <li>■ Quick &amp; free cutting</li> </ul>
<ul style="list-style-type: none"> <li>■ Internally reinforced</li> </ul>	<ul style="list-style-type: none"> <li>■ Burn &amp; burr-free cutting</li> <li>■ Maximum safety</li> <li>■ High stability for straight cuts</li> </ul>
<ul style="list-style-type: none"> <li>■ 80 m/s</li> </ul>	<ul style="list-style-type: none"> <li>■ Designed for small electrical table &amp; fixed machines</li> </ul>

<b>METAL</b>			<b>INDUSTRIAL LINE</b>	
DIA (mm)	TxB (mm)	PK QTY		
			Type 41	
			Type 41	
300	2,8x25,4	10		662528 <b>29909</b>
350	3,0x25,4	10		662528 <b>29910</b>
400	3,0x25,4	10		662528 <b>29918</b>

**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore









# WHEELS FOR STATIONARY MACHINES

Norton's wide range of cutting wheels for stationary machines provide high value and high performance industrial solutions.

## APPLICATIONS & MARKETS

- Construction
- Fabrication
- Foundry



INDUSTRIAL LINE															
<b>METAL</b> 	<b>Type 41</b>  														
<b>STONE</b> 	<b>Type 41</b>  														
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**METAL**



**INDUSTRIAL LINE**


DIA (mm)	TxB (mm)	PK QTY	BETTER		
			HARD	MEDIUM	SOFT
 Type 41					
250	3,5x25,4	10		662528 <b>29919</b>	
300	3,5x22,23	10	662528 <b>29960</b>	662528 <b>29911</b>	
	3,5x25,4	10	662528 <b>29961</b>	662528 <b>29912</b>	
	3,5x30,0	10		662529 <b>19096</b>	
	3,5x32,0	10		662528 <b>29913</b>	
350	4,0x25,4	10	662528 <b>29962</b>		
	4,5x25,4	10		662528 <b>29917</b>	
400	4,0x25,4	10	662528 <b>29963</b>		
	4,5x25,4	10		662528 <b>29920</b>	662529 <b>20502</b>
	4,5x32,0	10		662528 <b>29921</b>	



**STONE**



**INDUSTRIAL LINE**

DIA (mm)	TxB (mm)	PK QTY	BETTER		
			 Type 41		
300	3,0x25,4	10	662528 <b>29895</b>		
350	3,5x25,4	10	662528 <b>29899</b>		
400	4,0x25,4	10	662528 <b>29908</b>		

**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore

Norton's wide range of cutting wheels for rail industry machines provide high value and high performance industrial solutions.

**APPLICATIONS & MARKETS**

- Rail industry



BETTER

INDUSTRIAL LINE

RAIL METAL

Type 41

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Premium grain &amp; bond system</li> <li>■ 3 specifications Soft-Medium-Hard</li> <li>■ 80 m/s for 300mm</li> <li>■ 100 m/s for 350mm</li> </ul>	<ul style="list-style-type: none"> <li>■ White &amp; straight cuts</li> <li>■ Quick &amp; free cutting</li> <li>■ High stability</li> <li>■ Complete range for all rail machines, horsepower &amp; applications</li> <li>■ Designed for petrol &amp; electrical railcut machines with clamping device</li> <li>■ Maximum safety</li> </ul>

RAIL METAL

				INDUSTRIAL LINE		
DIA (mm)	TxB (mm)	MOS (m/s)	PK QTY	BETTER		
				HARD	MEDIUM	SOFT
				<div style="display: flex; align-items: center; justify-content: center;"> <span>Type 41</span> </div>		
300	3,5x20,0	80	10		662528 <b>29589</b>	
	3,5x22,23	80	10		662528 <b>29585</b>	662528 <b>33257</b>
350	4,0x20,0	100	10		662528 <b>29586</b>	
	4,0x22,23	100	10		662528 <b>29587</b>	662529 <b>51091</b>
	4,0x25,4	100	10	662528 <b>32744</b>	662528 <b>29588</b>	662528 <b>28620</b>
400	4,0x25,4	100	10			662529 <b>19130</b>

**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore



Norton's wide range of Foundry cutting & grinding wheels for angle grinders provide high value and high performance industrial solutions.

## APPLICATIONS & MARKETS

- Fabrication
- Foundry



INNOVATION

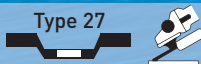
BEST

## NORZON PLUS

CAST  
IRON  
METAL  
INOX



Type 27



### FEATURES

- Premium combination of zirconia grain & an advanced bond system
- R-Medium availability
- S-Hard availability
- Free of iron, sulphur & chlorine

### BENEFITS

- Quality optimised for professionals
- Superior performance compared to standard aluminum oxide wheels
- Highest productivity & lowest cost per cut
- Easy & comfortable grinding
- Designed for steel, stainless steel, casts & white, grey & nodular cast iron applications
- Fast material removal
- Long wheel life
- No contamination



## NORZON III FOUNDRY

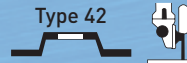
CAST  
IRON  
METAL  
INOX



Type 27



Type 42





### FEATURES

- Premium combination of zirconia grain & an advanced bond system
- Q-Soft availability
- R-Medium availability
- S-Hard availability

### BENEFITS

- Superior performance compared to standard aluminum oxide wheels
- Highest productivity & lowest cost per cut
- Designed for steel, stainless steel, casts & white, grey & nodular cast iron applications
- For comfortable working
- Fast material removal
- Long wheel life



			<b>CAST IRON/METAL INOX</b>							
			<b>NORZON PLUS</b>		<b>NORZON III</b>					
DIA (mm)	TxB (mm)	PK QTY	<b>INNOVATION</b>		<b>BEST</b>					
			<b>BEST</b>							
			S-HARD	R-MEDIUM				S-HARD	R-MEDIUM	Q-SOFT
			 <b>Type 27</b>							
100	7,0x16,0	25						66252831405	66252829765	
115	7,0x22,23	25	66252832968	66252832967			66252832712	66252832956		
125	4,0x22,23	25						66252833139		
	4,6x22,23	25						66252833140		
	7,0x22,23	25	66252832970	66252832969			66252829391	66252833036	66252833224	
150	7,0x22,23	25					66252832724	66252832723		
180	4,0x22,23	25						66252833223		
	4,6x22,23	25						66252832716		
	7,0x22,23	25	66252832972	66252832971			66252831435	66252832717	66252832692	
230	4,0x22,23	25						66252833147		
	4,6x22,23	25						66252833037		
	7,0x22,23	25	66252832974	66252932973			66252831448	66252829493	66252832693	
			 <b>Type 42</b>							
100	3,2x16,0	25					66252833135			
115	3,2x22,23	25					66252833137			
125	3,2x22,23	25					66252829555			
180	3,2x22,23	25					66252833144			
230	3,2x22,23	25					66252831531			



**Dimensions Key:** DIA = Diameter, T = Thickness, B = Bore





**NORTON**

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**Coated  
Abrasives**

The Norton coated abrasive product offering encompasses a complete range of belts, discs, rolls, sheets and flap wheels for all your polishing, welding, maintenance and repair operations needs. This extensive product range includes products designed for all types of application, including heavy stock removal, dimensioning, grinding, deburring, cleaning, blending, polishing and finishing operations.

## UNDERSTANDING THE PRODUCT

R	9	8	0
<b>BACKING</b>	<b>PRINCIPAL ABRASIVE</b>	<b>COATED</b>	<b>RANDOM</b>
A - Light Paper	1 - Aluminium Oxide	Odd Number - Openkote	Differentiates different products within the same product group
F - Fibre	2 - Aluminium Oxide	<b>Even number</b> - <b>Closekote</b>	
G - Heavy Paper	3 - Aluminium Oxide		
H - Heavy Paper	4 - Silicon Carbide		
K - Cloth	6 - Emery		
Q - Various (e.g. Screen-bak & Film)	7 - Flint		
<b>R - Cloth</b>	8 - Zirconia Alumina		
S - Combination	<b>9 - SG® - Ceramic Aluminium Oxide</b>		
T - Waterproof Paper			
U - Norax®			
W - Special (Cork)			

### BACKING TYPES

Whether paper, cloth, vulcanised fibre or polyester film, the backing must be smooth enough for uniform adhesive coating, strong enough to withstand grinding pressures and flexible enough to conform to contours if necessary.

### ABRASIVE BONDS

There are two main types of adhesives in use, one based on animal glue, and the more common based on synthetic heat hardenable resins. The adhesive is applied with a minimum of two bonding applications. The first, or maker, coat adheres the abrasive grain to the backing ensuring proper anchoring and orientation. After drying, or curing, the second, or sizer, coat is applied. The sizer adhesive, united with the maker bond, provides final grain anchoring and the proper total adhesive level for the finished product.

### ABRASIVE TYPES

The ideal abrasive grain offers maximum resistance to point wear, yet fractures before serious dulling occurs, thereby satisfying both stock removal and finishing requirements.

**SYNTHETIC ABRASIVES**

- Aluminium oxide is tough and well adapted to grinding high tensile materials, such as carbon steel, alloy steels, tough bronze and hard woods. Wherever toughness (ability to resist fracturing) is the main consideration, aluminium oxide out performs all other coated abrasive grains
- Silicon carbide is the hardest and sharpest of the minerals used in coated abrasives. Its hardness and sharpness make it the ideal abrasive for sanding non-ferrous metals (aluminium, brass, bronze, magnesium, titanium, etc.), rubber, glass, plastics, fibrous woods, enamel and other relatively soft materials. Silicon carbide is superior to any other abrasive in its ability to penetrate and cut faster under light pressure
- Zirconia alumina has a unique self-sharpening characteristic which gives it long life on rugged stock removal operations. Zirconia alumina is well suited for heavy grinding of metals and planing of wood, because the controlled fracturing of the grain continuously produces sharp, new abrading points
- Ceramic aluminium oxide is a long-lasting, tough, dense abrasive due to its micro structure. The extremely small micron size particles break off during grinding, producing multiple new cutting edges. As it stays sharp, especially when used in medium and high pressure operations, it cuts at a higher rate than other abrasives. Recommended for use on forged and carbon steels, high nickel and cobalt alloys

**NATURAL ABRASIVES**


- Emery is a natural composite of corundum and iron oxide. The particles are blocky in shape and tend to cut slowly, thereby producing a polishing action on the material being abraded. Used for general maintenance and polishing of metals and in very fine grits for highly technical polishing, such as preparing metallurgical specimens requiring very close tolerances. Emery products are black in colour

**DIFFERENTIATION IN THE RANGE**

Norton offers the industry’s widest selection of coated abrasives to meet every customer requirement. The wide range of abrasive types used in the range are classified into 3 tiers by product shape (Best/ Better/ Good) to help you choose the right product for your specific application.

<b>INNOVATION BEST</b>	Using unparalleled abrasive technology, and extremely high performance abrasive grains, Norton provides innovative product solutions dedicated to improving productivity in all industrial applications	<b>BETTER</b>	The core of the Norton Coated Abrasive offering. These products are designed to give superior performance solutions in all abrasive applications, giving high productivity levels and low total abrasive costs
<b>BEST</b>	These technologically advanced products meet the demands of the most discerning user giving the highest productivity and the longest product life for the lowest operating costs	<b>GOOD</b>	Standard Norton products that give highly durable solutions with good performance levels

Norton offers a diverse range of products that are suitable for all commonly encountered industrial applications. To enable more effective product selection an overview of appropriate products for the main applications is given in the following pages. Pictograms and colours are used to represent the applications and these are repeated with the product details in the main section.





















<b>FERROUS</b> 	<b>NON-FERROUS</b> 	<b>STONE</b> 
<b>HARD WOOD</b> 	<b>SOFT WOOD</b> 	<b>PAINT &amp; VARNISH</b> 
<b>GLASS</b> 	<b>SHOE REPAIR</b> 	

For further information please go to the Technical Information Section at the back of this catalogue.

Norton offers a range of coated abrasive products suitable for all metal applications including cutting, surface preparation and finishing. Norton offers the best abrasive solutions for the most stringent operations in various applications.



METAL WORKING		METAL FINISHING	
APPLICATIONS	SUITABLE PRODUCTS	APPLICATIONS	SUITABLE PRODUCTS
■ Grinding & blending welds	■ Flap discs	■ Finishing of stainless steel	■ NORaX® belts
■ Heavy grinding & deburring	■ Fibre discs	■ Cleaning & finishing	■ Flap wheels
■ Grinding all types of metals	■ Narrow belts	■ Light to heavy duty cleaning	■ BearTex® discs
■ Light to medium deburring	■ SpeedLok® discs		

FERR. & NON-FERR.  METAL																				
USAGE KEY																				
■ Highly recommended																				
CAP CODE	DESCRIPTION	APPLICATION	Cut Sheets	Plain Discs	Multi-Air® Discs	Norgrip/Soft-touch® Discs	Self-adhesive	Fibre Discs	Flap Discs	Sheets	Rolls	Handy Rolls	Belts	Flap Wheels	SpeedLok® Discs	Cartridge Rolls	Spirabands	Cones	Flexi Flap Discs	
<b>INNOVATION</b>			<b>BEST</b>																	
U 242	NORaX®													■						
R929	SG Polyester													■						
R980	SG Polyester								■						■					
R880	NZ Polycotton	 							■											
			<b>BEST</b>																	
F971	SG Fibre							■												
F975	SG Fibre							■												
F986	SG Fibre	 														■				
R984	SG Polyester													■						
R981	SG Polyester	 													■					
U366	AO Polyester	 												■						
RX22/ R822	NZ Cloth	 							■											
H231	AO Paper	 				■					■		■							
A975	AO Paper				■	■														

FERR.  
& NON-  
FERR.



METAL (CONTINUED)

USAGE KEY

■ Highly recommended

CAP CODE	DESCRIPTION	APPLICATION	Cut Sheets	Plain Discs	Multi-Air® Discs	Norgrip/Soft-touch® Discs	Self-adhesive	Fibre Discs	Flap Discs	Sheets	Rolls	Handy Rolls	Belts	Flap Wheels	SpeedLok® Discs	Cartridge Rolls	Spirabands	Cones	Flexi Flap Discs
BEST																			
H875	NZ Paper				■														
T417	SiC Paper									■									
T402	SiC Paper						■			■									
Q132	Film										■								
BETTER																			
H835	NZ Paper		■			■													
F861	NZ Fibre							■											
F827	NZ Fibre							■											
F425	SiC Fibre							■											
R847	NZ Polyester												■						
R817	NZ Polyester											■	■						
R222	A0 Cloth									■	■	■							
Q222	A0 Cloth									■	■								
R309	A0 Cloth										■		■						
R427	SiC Cloth												■						
R822	NZ Cloth								■				■	■	■		■	■	■
RX22/ R822	NZ Cloth								■										
A275	A0 Paper		■		■	■	■			■	■								
T489	SiC Paper									■									
GOOD																			
F293	A0 Fibre							■					■						
F228	A0 Fibre							■											
R445	SiC Polyester												■						
R230	A0 Cloth										■		■			■			
R212	A0 Cloth											■							
R293	A0 Polyester													■					
R265	A0 Cloth												■						
R207	A0 Cloth													■					
R230	A0 Cloth														■				
RV71	A0 Cloth														■				
R82A	NZ Cloth								■				■						
G422	SiC Paper			■															
A621	Emery Paper									■									

FERROUS



NON-FERROUS





















In addition to this stock offering, Norton offers a range of made-to-order solutions designed for this application. For more information about made-to-order Coated Abrasive products please refer to the product selection tables on page 84 or contact your local Sales Representative.

Norton leads the development of coated abrasive technology in this market through innovations such as Norton Red Heat R955 with New Generation SG® grain which provides the optimum productivity at the lowest cost. Norton offers a range of products suitable for the most commonly used machines.



APPLICATIONS	SUITABLE PRODUCTS
■ Drum sanders	■ Sheets & rolls
■ Belt sanders	■ Belts
■ Edger sanders	■ Discs
■ Buffer sanders	

**HARD WOOD SOFT WOOD PAINT/VARNISH**  **WOOD, FLOOR, VARNISH, PAINT & COMPOSITES**

USAGE KEY														
■ Highly recommended														
CAP CODE	DESCRIPTION	APPLICATION	Mult-Air® Norgrip/Soft-touch® Discs	Plain Discs	Norgrip/Soft-touch® Discs	Self-Adhesive Discs	Double-sided Discs	Cut Sheets	Sheets	Slitted Rolls	Rotolo® Rolls	Handy Rolls	Belts	Cartridge Rolls
<b>INNOVATION</b>			<b>BEST</b>											
R955	SG Cloth													■
			<b>BEST</b>											
A975	SG Paper		■		■									
H231	AO Paper				■					■				■
			<b>BETTER</b>											
R222	AO Cloth								■	■		■		
Q222	AO Cloth								■	■				
R309	AO Cloth									■			■	
R817	NZ Cloth									■			■	
S413	SiC Combination									■				
S422	SiC Combination									■				
A275	AO Paper		■		■	■		■	■	■	■			
H425	SiC Paper			■			■	■		■				
T402	SiC Paper					■								
H835	NZ Paper				■		■	■						
			<b>GOOD</b>											
R230	AO Cloth									■			■	■
G131	AO Paper							■		■				
A213	AO Paper								■					
G422	SiC Paper			■										
Q421	Film			■										

**HARD WOOD**  **SOFT WOOD**  **PAINT & VARNISH** 

In addition to this stock offering, Norton offers a range of made-to-order solutions designed for this application. For more information about made-to-order Coated Abrasive products please refer to the product selection tables on page 84 or contact your local Sales Representative.

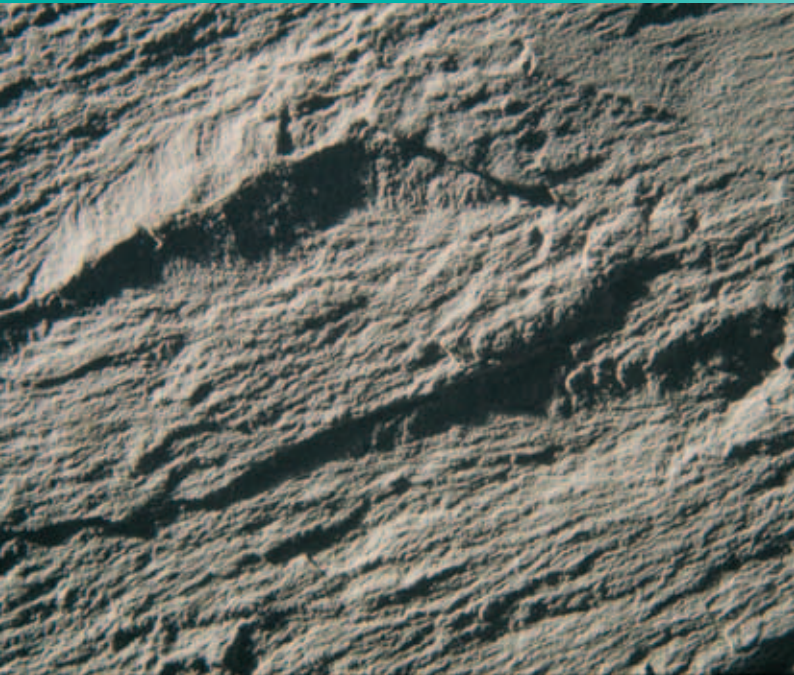
Norton supplies a full range of abrasives to cover the various needs for glass converting & finishing.



MAIN APPLICATIONS	SUITABLE PRODUCTS
<ul style="list-style-type: none"> <li>Edge grinding</li> </ul>	<ul style="list-style-type: none"> <li>Narrow belts</li> </ul>
<ul style="list-style-type: none"> <li>Edge finishing</li> </ul>	<ul style="list-style-type: none"> <li>Cork belts</li> </ul>
<ul style="list-style-type: none"> <li>Removal of coating after cutting</li> </ul>	<ul style="list-style-type: none"> <li>BearTex® wheels</li> </ul>
<ul style="list-style-type: none"> <li>Windshield logo removal</li> </ul>	<ul style="list-style-type: none"> <li>File narrow belts</li> </ul>
















GLASS		GLASS		
CAP CODE	DESCRIPTION	APPLICATION		Belts
<b>USAGE KEY</b>				
<ul style="list-style-type: none"> <li>Highly recommended</li> </ul>				
<b>INNOVATION</b>				<b>BEST</b>
U366	NORaX®			<b>BEST</b>
				<b>BEST</b>
R427	SiC Cloth			<b>BETTER</b>
				<b>BETTER</b>
W445	Cork Polyester			<b>GOOD</b>
				<b>GOOD</b>
R445	SiC Polyester			<b>GOOD</b>

In addition to this stock offering, Norton offers a range of made-to-order solutions designed for this application. For more information about made-to-order Coated Abrasive products please refer to the product selection tables on page 84 or contact your local Sales Representative.



Norton offer a full range of silicon carbide discs dedicated to the main applications for stone and marble finishing.

MAIN APPLICATIONS	SUITABLE PRODUCTS
<ul style="list-style-type: none"> <li>Polishing</li> <li>Cleaning &amp; finishing</li> </ul>	<ul style="list-style-type: none"> <li>Plain discs, Norgrip® discs</li> <li>Flap discs</li> </ul>

STONE 			Plain Discs	Semi-Flexible Discs	Double-sided Discs	Fibre Discs	Cut Sheets	Portable belts	Rolls
<b>USAGE KEY</b> Highly recommended									
CAP CODE	DESCRIPTION	APPLICATION 							
<b>BEST</b>									
Q400	SiC								
<b>BETTER</b>									
F425	SiC Fibre								
H425	SiC Paper								
G422	SiC Paper								
<b>GOOD</b>									
R427	SiC Cloth								

In addition to this stock offering, Norton offers a range of made-to-order solutions designed for this application. For more information about made-to-order Coated Abrasive products please refer to the product selection tables on page 84 or contact your local Sales Representative.

Norton has vast experience of supplying belts for shoe repair application and the products are widely recognised as being the best available in this market.



MAIN APPLICATIONS	SUITABLE PRODUCTS
<ul style="list-style-type: none"> <li>Edge chamfering</li> <li>Edge grinding</li> </ul>	<ul style="list-style-type: none"> <li>Cones Specialties</li> <li>Belts</li> </ul>


SHOE REPAIR			Cones	Belts
CAP CODE	DESCRIPTION	APPLICATION		
<b>USAGE KEY</b> Highly recommended				
BETTER				
R817	NZ Polyester			
R822	NZ Cloth			


In addition to this stock offering, Norton offers a range of made-to-order solutions designed for this application. For more information about made-to-order Coated Abrasive products please refer to the product selection tables on page 84 or contact your local Sales Representative.



# PRODUCT SELECTION

## USAGE KEY

 Stock products


 Made-to-order

PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	600	500	400	360
<b>FIBRE DISCS</b>												
F228	0.6-0.8 Wt Fibre AO											
F293	0.6-0.8 Wt Fibre AO											
F425	0.6-0.8 Wt Fibre SiC											
F827	0.6-0.8 Wt Fibre Zir											
F861	0.8 Wt Fibre ZR/AO											
F975	0.8 Wt Fibre SG											
F971	0.8 Wt Fibre SG											
<b>FLAP DISCS</b>												
R980	X Cotton Heavy Cloth SG											
R880	X Cotton Heavy Cloth Zir											
R265	X Cotton Heavy Cloth AO											
R822	X Cotton Heavy Cloth Zir											
RX22/R822	X Cotton Heavy Cloth SG											
<b>DISCS</b>												
A277	E* Wt Heavy Paper AO											
A275 Soft-Touch®	B Wt Soft Touch® AO											
A275 Norgrip®	B/E* Wt AO											
A975 Soft-Touch®	B Wt Soft Touch® AO											
A975 Norgrip®	B Wt SG/AO											
G131 Norgrip®	E* Wt AO											
G422	E Wt Heavy Paper SiC											
G422 Norgrip®	E Wt SiC											
H822	E Wt Heavy Paper ZR											
H231 Norgrip®	F Wt AO											
H425	E Wt Heavy Paper SiC											
H425 Norgrip®	E Wt SiC											
H835	E Wt Heavy Paper ZR/AO											
Q421	Grid Wt SiC											
Q263	Grid Wt SiC											
R293	X/Y Poly Wt AO/SG											
R445	X/Y Poly Wt SiC											
R473	X Poly Wt Aggreg. SiC											



























	320	280	240	220	180	150	120	100	80	60	50	40	36	30	24	20	16	PRODUCT CODE
							■	■	■	■	■		■		■			F228
							■	■	■	■	■		■		■		■	F293
	■			■			■		■	■			■		■			F425
							■	■	■	■	■		■		■			F827
							■		■	■	■		■					F861
									■	■	■		■					F975
									■	■	■		■					F971
									■	■		■						R980
							■		■	■		■	■					R880
							■	■	■	■	■	■	■					R265
							■	■	■	■	■	■	■					R822
							■		■	■		■	■					RX22/R822
■	■	■																A277
■	■	■	■															A275 Soft-Touch®
■	■	■	■	■	■	■	■	■	■									A275 Norgrip®
■																		A975 Soft-Touch®
■	■	■	■	■	■	■	■		■									A975 Norgrip®
		■	■	■	■	■	■	■	■	■	■	■	■					G131 Norgrip®
■	■	■	■															G422
■			■	■														G422 Norgrip®
			■	■	■	■	■		■	■								H822
■	■	■	■	■	■	■	■	■	■	■	■	■	■					H231 Norgrip®
				■	■	■	■	■	■	■	■	■	■					H425
				■	■	■	■	■	■	■	■	■	■					H425 Norgrip®
						■	■	■	■		■							H835
■			■	■	■	■	■	■	■									Q421
																		Q263
■	■	■	■	■	■	■	■	■	■	■	■	■	■		■			R293
■		■	■	■	■	■	■	■	■	■							■	R445
				■		■	■		■									R473

# PRODUCT SELECTION

## USAGE KEY

 Stock products


 Made-to-order


PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	600	500	400	360
<b>DISCS (CONTINUED)</b>												
R230	X Cotton Heavy Cloth AO											
R270	X Poly Wt Aggreg. AO											
R275	X - Poly Wt Aggreg. AO											
R287	J Cotton Wt Light Cloth AO											
R296	JJ Cotton Wt Light Cloth SG/AO											
R309	JJ Cotton Wt Light Cloth AO											
R426	J Cotton Wt Light Cloth SiC											
R427	X Cotton Heavy Cloth SiC											
R817	Y Poly Wt Zir											
R823	Y Poly Wt ZR/AO											
R846	Y Poly Wt ZR/AO											
R847	Y Poly Wt Zir											
R922	X Cotton Wt Heavy Cloth SG/AO											
R926	X Cotton Wt Heavy Cloth SG/AO											
R949	X Poly Wt SG/AO											
R984	Y Poly Wt SG											
RX84	Y Poly Wt Delta/AO											
S413	Comb. Paper Wt SiC											
S422	Comb. Paper Wt SiC											
T402	A Wt Waterproof SiC											
<b>CUT SHEETS</b>												
A213	B Wt Light Paper AO											
A275	B Wt Light Paper AO											
A975	B Wt Light Paper SG (Cer)+ AO											
G131	E* Wt Heavy Paper AO											
H231	F Wt Heavy Paper AO											
H425	E Wt Heavy Paper SiC											
H835	E Wt Heavy Paper ZR/AO											
Q421	Grid Wt SiC											
R230	X Cotton Heavy Cloth AO											
R265	X Cotton Heavy Cloth AO											
R287	JJ Cotton Wt Light Cloth AO											
























































	320	280	240	220	180	150	120	100	80	60	50	40	36	30	24	20	16	PRODUCT CODE
					▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R230
▣			▣		▣		▣		▣	▣								R270
▣		▣			▣	▣	▣	▣	▣	▣								R275
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R287
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣									R296
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R309
								▣	▣									R426
▣		▣		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R427
							▣	▣	▣	▣	▣	▣	▣		▣			R817
			▣	▣	▣	▣	▣	▣	▣									R823
									▣	▣	▣	▣	▣					R846
										▣	▣	▣	▣		▣			R847
							▣	▣	▣	▣	▣	▣	▣					R922
							▣	▣	▣	▣	▣	▣	▣					R926
					▣	▣	▣	▣	▣	▣	▣							R949
							▣	▣	▣	▣	▣	▣	▣		▣			R984
							▣	▣	▣	▣	▣	▣	▣					RX84
													▣	▣	▣	▣	▣	S413
							▣	▣	▣	▣	▣	▣	▣	▣	▣			S422
																		T402
▣		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					A213
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣									A275
▣		▣	▣	▣	▣	▣	▣		▣									A975
		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					G131
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					H231
				▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					H425
							▣	▣	▣	▣		▣						H835
▣			▣	▣	▣	▣	▣	▣	▣	▣								Q421
				▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R230
▣		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣						R265
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R287

# PRODUCT SELECTION

## USAGE KEY

 Stock products

 Made-to-order


PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	600	500	400	360
<b>CUT SHEETS (CONTINUED)</b>												
R309	JJ Cotton Wt Light Cloth A0											
R426	JJ Cotton Wt Light Cloth SiC											
R427	X Cotton Heavy Cloth SiC											
R822	X Cotton Heavy Cloth Zir											
R922	X Cotton Heavy Cloth SG (Ceramic) + A0											
<b>SHEETS</b>												
A213	B Wt Light Paper A0											
A213	C Wt Light Paper A0											
A275	B Wt Light Paper A0											
A413	A Wt Light Paper SiC											
A621	C Wt Light Paper Emery**											
A721	B Wt Light Paper Flint											
K625	J Light Wt Light Cloth Emery**									Very Fine		
Q421	Grid Wt SiC											
Q222	NW: Non Woven Wt A0											
R222	J Wt Light Cloth A0											
T221	C Wt Waterproof SiC											
T402	A Wt Waterproof SiC**											
T417	B/C Wt Waterproof SiC											
T489	B Wt Waterproof SiC											
<b>SLITTED ROLLS</b>												
A213	B Wt Light Paper A0											
A213	C Wt Light Paper A0											
A277	E* Wt Heavy Paper A0											
A455	E* Wt Heavy Paper SiC											
A275	B Wt Light Paper A0											
A275 Rotolo®	B Wt Rotolo® A0											
A275 Norgrip®	B Wt A0											
A621	C Wt Light Paper Emery**											
BD25	D Wt Heavy Paper A0											
BD25 Norgrip®	D Wt A0											

\*\*Special Grading


















320	280	240	220	180	150	120	100	80	60	50	40	36	30	24	20	16	PRODUCT CODE
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R309
							▣	▣									R426
▣		▣		▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R427
					▣	▣	▣	▣	▣	▣	▣	▣		▣			R822
						▣	▣	▣	▣	▣	▣	▣					R922
▣		▣	▣	▣	▣	▣	▣										A213
								▣	▣	▣	▣	▣					A213
▣	▣	▣	▣	▣	▣	▣	▣	▣									A275
▣		▣	▣	▣													A413
				4/0													A621
					3/0	2/0	0	1	2	3	4	5	6				A721
	Fine		Medium			Coarse				Very Coarse							K625
▣			▣	▣	▣	▣	▣	▣	▣								Q421
			▣	▣	▣	▣	▣	▣	▣			▣					Q222
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					R222
▣	▣	▣	▣	▣													T221
																	T402
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣							T417
						▣	▣	▣	▣								T489
▣		▣	▣	▣	▣	▣	▣										A213
								▣	▣	▣	▣	▣					A213
▣	▣	▣															A277
▣	▣	▣	▣														A455
▣	▣	▣	▣	▣	▣	▣	▣	▣									A275
▣	▣	▣	▣	▣	▣												A275 Rotolo®
▣	▣	▣	▣	▣	▣	▣	▣	▣									A275 Norgrip®
				4/0													A621
	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					BD25
	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					BD25 Norgrip®

# PRODUCT SELECTION

## USAGE KEY

 Stock products


 Made-to-order


PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	600	500	400	360
<b>SLITTED ROLLS (CONTINUED)</b>												
G131	E* Wt Heavy Paper A0											
G422	E Wt Heavy Paper SiC											
H822	E Wt Heavy Paper ZR											
H231	F Wt Heavy Paper A0											
H259	E Wt Heavy Paper A0											
H425	E Wt Heavy Paper SiC											
H835	E Wt Heavy Paper ZR/A0											
Q421	Grid Wt SiC											
Q13x	3mm Film Wt A0											
Q15x	5mm Film Wt A0											
Q222	Non woven Wt A0											
R202	J Cotton Wt A0											
R207	X Cotton Heavy Cloth A0											
R222	J Wt Light Cloth A0											
R230	X Cotton Heavy Cloth A0											
R265	X Cotton Heavy Cloth A0											
R270	X Poly Wt Aggreg. A0											
R275	X Poly Wt Aggreg. A0											
R287	J Cotton Wt Light Cloth A0											
R293	X/Y Polyester Wt A0/SG											
R296	JJ Cotton Wt Light Cloth SG/A0											
R309	JJ Cotton Wt Light Cloth A0											
R426	J Cotton Wt Light Cloth SiC											
R427	X Cotton Heavy Cloth SiC											
R445	X/Y Polyester Wt SiC											
R473	X Poly Wt Aggreg. SiC											
R484	YY Poly Wt SiC											
R817	Y Polyester Wt Zir											
R822	X Cotton Heavy Cloth Zir											
R823	Y Poly Wt ZR/A0											
R82A	X Cotton Heavy Cloth ZR/A0											
R880	X Poly Cotton Wt ZR/A0											

	320	280	240	220	180	150	120	100	80	60	50	40	36	30	24	20	16	PRODUCT CODE
			▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					G131
▣	▣	▣	▣															G422
			▣	▣	▣	▣		▣	▣									H822
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					H231
				▣	▣	▣	▣	▣	▣	▣								H259
				▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					H425
▣			▣	▣	▣	▣	▣	▣	▣	▣		▣						H835
																		Q421
																		Q13x
																		Q15x
			▣	▣	▣	▣	▣	▣	▣	▣		▣						Q222
▣		▣	▣	▣	▣	▣	▣	▣	▣	▣								R202
▣		▣		▣	▣	▣	▣	▣	▣	▣	▣	▣						R207
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					R222
				▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R230
▣		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣						R265
▣		▣		▣		▣		▣	▣									R270
▣		▣		▣	▣	▣	▣	▣	▣	▣								R275
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R287
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣			▣			R296
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R309
							▣	▣										R426
▣		▣		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R427
▣		▣	▣	▣	▣	▣	▣	▣	▣	▣							▣	R445
				▣		▣	▣		▣									R473
				▣	▣	▣	▣	▣	▣	▣	▣	▣						R484
						▣	▣	▣	▣	▣	▣	▣	▣		▣			R817
				▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R822
			▣	▣	▣	▣	▣	▣	▣	▣								R823
						▣		▣	▣	▣	▣	▣	▣					R82A
						▣		▣	▣	▣		▣						R880

# PRODUCT SELECTION

## USAGE KEY

 Stock products



 Made-to-order

PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	600	500	400	360
<b>SLITTED ROLLS (CONTINUED)</b>												
R846	Y Poly Wt ZR/AO											
R847	Y Poly Wt Zir											
R853	YY Poly Wt ZR											
R922	X Cotton Wt Heavy Cloth SG/AO											
R926	X Cotton Wt Heavy Cloth SG/AO											
R949	X Poly Wt SG/A											
R966	Y Poly Wt SG/AO											
R980	Y Poly Wt SG											
R984	Y Poly Wt SG											
RX22	X Cotton Heavy Cloth SG											
RX66	Y Poly Wt Delta/AO											
RX84	Y Poly Wt Delta/AO											
S413	Comb. Paper Wt SiC											
S422	Comb. Paper Wt SiC											
S468	Comb. Paper Wt SiC											
S482	Comb. Paper Wt SiC											
W441	XCotton Wt Heavy Cloth SiC/Cork											
W445	X Poly Wt Cork											No Grit
<b>BELTS</b>												
A455	E* Wt Heavy Paper SiC											
A277	E* Wt Heavy Paper AO											
G422	E Wt Heavy Paper SiC											
H231	F Wt Heavy Paper AO											
H259	E Wt Heavy Paper AO											
R293	X/Y Poly Wt AO/SG											
R230	X Cotton Heavy Cloth AO											
R265	X Cotton Heavy Cloth AO											
R270	X Poly Wt Aggreg. AO											
R275	X Poly Wt Aggreg. AO											
R287	J Cotton Wt Light Cloth AO											
R293	X/Y Poly Wt AO/SG											
R296	JJ Cotton Wt Light Cloth SG/AO											

320	280	240	220	180	150	120	100	80	60	50	40	36	30	24	20	16	PRODUCT CODE
								▣	▣	▣	▣	▣					R846
									▣	▣	▣	▣		▣			R847
								▣	▣	▣	▣	▣					R853
						▣	▣	▣	▣	▣	▣	▣					R922
						▣	▣	▣	▣	▣	▣	▣					R926
				▣		▣	▣	▣	▣	▣							R949
						▣	▣	▣	▣	▣	▣	▣		▣			R966
								▣	▣	▣	▣	▣					R980
						▣	▣	▣	▣	▣	▣	▣		▣			R984
						▣	▣	▣	▣	▣	▣	▣					RX22
						▣	▣	▣	▣	▣	▣	▣					RX66
						▣	▣	▣	▣	▣	▣	▣					RX84
												▣	▣	▣	▣	▣	S413
						▣	▣	▣	▣	▣	▣	▣	▣	▣			S422
					▣	▣	▣	▣	▣	▣	▣	▣					S468
				▣	▣	▣	▣	▣	▣								S482
																	W441
																	W445
No Grit																	
▣	▣	▣	▣														A455
▣	▣	▣															A277
▣	▣	▣	▣	▣	▣												G422
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣					H231
				▣	▣	▣	▣	▣									H259
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R293
				▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R230
▣		▣	▣	▣	▣	▣	▣	▣	▣	▣	▣						R265
▣		▣		▣		▣		▣	▣								R270
▣		▣		▣	▣	▣	▣	▣	▣								R275
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣								R287
▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣	▣		▣			R293
▣	▣	▣	▣	▣	▣	▣	▣	▣									R296







## PRODUCT SELECTION

### USAGE KEY

-  Stock products
-  Made-to-order

PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	600	500	400	360
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### BELTS (CONTINUED)

R309	JJ Cotton Wt Light Cloth A0											
R426	J Cotton Wt Light Cloth SiC											
R427	X Cotton Heavy Cloth SiC											
R445	X/Y Poly Wt SiC											
R473	X Poly Wt Aggreg. SiC											
R484	YY Poly Wt SiC											
R817	Y Polyester Wt Zir											
R822	X Cotton Heavy Cloth Zir											
R823	Y Poly Wt ZR/A0											
R82A	X Cotton Heavy Cloth ZR/A0											
R846	Y Poly Wt ZR/A0											
R847	Y Poly Wt Zir											
R853	YY Poly Wt ZR											
R921	Y Poly Wt SG											
R922	X Cotton Wt Heavy Cloth SG/A0											
R926	X Cotton Wt Heavy Cloth SG/A0											
R929	Poly Wt A0/SG											
R949	X Poly Wt SG/A0											
R966	Y Poly Wt SG/A0											
R980	Y Poly Wt SG											
R981	Y Poly Wt SG/A0											
R984	Y Poly Wt SG											
RX22	X Cotton Heavy Cloth SG											
RX66	Y Poly Wt Delta/A0											
RX84	Y Poly Wt Delta/A0											
S413	Comb. Paper Wt SiC											
S422	Comb. Paper Wt SiC											
S468	Heavy Comb. Wt SiC											
S482	Paper Comb. Wt SiC											
S853	Heavy Comb. Wt ZR											
W441	X Cotton Wt SiC/Cork											
W445	X Poly Wt Cork											No Grit

320	280	240	220	180	150	120	100	80	60	50	40	36	30	24	20	16	PRODUCT CODE
■	■	■	■	■	■	■	■	■	■								R309
							■	■									R426
■		■		■	■	■	■	■	■	■	■	■		■			R427
■		■	■	■	■	■	■	■	■							■	R445
				■		■	■		■								R473
				■	■	■	■	■	■	■	■						R484
						■	■	■	■	■	■	■		■			R817
				■	■	■	■	■	■	■	■	■		■			R822
			■	■	■	■	■	■	■								R823
						■		■	■	■	■	■					R82A
								■	■	■	■	■					R846
								■	■	■	■	■		■			R847
								■	■	■	■	■					R853
						■	■	■	■	■		■		■			R921
						■	■	■	■	■	■	■					R922
						■	■	■	■	■	■	■					R926
						■	■	■	■	■	■	■					R929
				■	■	■	■	■	■	■							R949
						■	■	■	■	■	■	■		■			R966
								■	■	■	■	■					R980
						■	■	■	■	■		■					R981
						■	■	■	■	■	■	■		■			R984
						■	■	■	■	■	■	■					RX22
						■	■	■	■	■	■	■					RX66
						■	■	■	■	■	■	■					RX84
												■	■	■	■	■	S413
						■	■	■	■	■	■	■	■	■			S422
				■	■	■	■	■	■	■	■	■					S468
			■	■	■	■	■	■	■								S482
								■	■	■	■	■		■			S853
																	W441
																	W445

No Grit

## PRODUCT SELECTION

USAGE KEY	X3	X4	X5	X10	X15	X16	X20	X22	X30	X35
	■ Stock products ▨ Made-to-order									
PRODUCT CODE	-	-	3000	1500	1200	1200	1000	800	500	400

### NORAX BELTS, SHEETS & DISCS

U142								▨	▨	
U152	▨									
U162			▨		▨					
U234						▨		▨	▨	
U242		▨				▨		▨	▨	
U243						▨		▨		
U254			▨			▨		▨	▨	
U264			▨			▨		▨	▨	
U336			▨			▨		▨	▨	
U366			■			▨		▨	▨	
U434										
U442							▨			
U454										
U464										
U466										

### NORAX SHEETS & DISCS ONLY

U321			▨							
U331				▨						▨
U381				▨						▨

	X40	X45	X65	X70	X80	X90	X100	X110	X200	X210	
	360	320	220	220	180	180	150	150	80	80	PRODUCT CODE
		▣	▣								U142
											U152
											U162
		▣	▣		▣		▣		▣		U234
		▣	▣								U242
											U243
		▣	▣		▣		▣				U254
		▣	▣		▣		▣		▣		U264
		▣	▣		▣		▣				U336
		▣	▣		▣		▣		▣		U366
				▣		▣		▣			U434
▣											U442
				▣		▣		▣			U454
				▣		▣		▣			U464
				▣		▣		▣		▣	U466
											U321
		▣									U331
		▣									U381

From rapid weld grinding to blending and finishing, Norton has a complete range of high performance fibre discs available in premium performance Norton SG<sup>®</sup> ceramic aluminium oxide, zirconia alumina, and aluminium oxide abrasives. All fibre discs in the Norton range feature a full resin bond system with heavy duty fibre backing for increased strength, durability and tear resistance.

## APPLICATIONS & MARKETS

- Material removal
- Weld grinding & blending
- Light deburring & finishing
- Car manufacturing
- Metal fabrication
- Welding & foundry markets
- Transport markets



BEST	<b>F971 GREENLYTE PLUS</b>		
	FERR. & NON-FERR.		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>■ SG<sup>®</sup> ceramic abrasive</li> <li>■ 0.8mm high strength fibre backing</li> <li>■ Third layer Supersize with active filler</li> </ul>	<ul style="list-style-type: none"> <li>■ Fastest cut rate &amp; long product life</li> <li>■ Ideal for blending, edge breaking &amp; weld removal</li> <li>■ Excellent for use in ship building</li> <li>■ Resistant to high pressure</li> <li>■ Resists loading &amp; has low heat generation</li> <li>■ Ideal for grinding stainless steel &amp; other sensitive metals</li> </ul>	
<b>F975 GREENLYTE</b>			
FERR. & NON-FERR.			
<b>FEATURES</b>	<b>BENEFITS</b>		
<ul style="list-style-type: none"> <li>■ SG<sup>®</sup> ceramic abrasive</li> <li>■ 0.8mm high strength fibre backing</li> </ul>	<ul style="list-style-type: none"> <li>■ Fastest cut rate</li> <li>■ Suitable for metal grinding, shaping, blending, edge breaking &amp; weld removal</li> <li>■ Resistant to high pressure</li> <li>■ Cool cut</li> </ul>		

BETTER

### F861 NORZON® PLUS

NORZON  
PLUS

FERR.  
& NON-  
FERR.

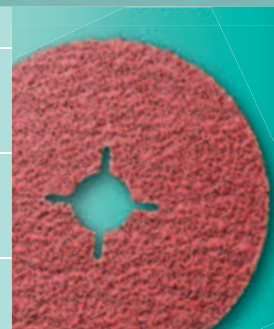


#### FEATURES

- NorZon® abrasive
- 0.8mm fibre backing
- Third layer Supersize with active filler

#### BENEFITS

- Excellent cut rate
- Ideal for metal grinding, shaping, blending & weld removal
- Cool cut
- Ideal for heavy construction work & stainless steel grinding
- Resistant to loading
- Ideal for sensitive metal grinding



### F827 NORZON®

NORZON

FERR.  
& NON-  
FERR.

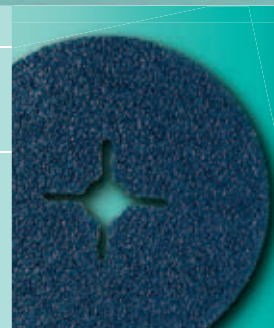


#### FEATURES

- NorZon® abrasive
- 0.8mm fibre backing

#### BENEFITS

- General purpose
- Ideal for grinding, shaping, blending, edge breaking & weld
- High & regular cut rate
- Good for high metal removal in short time
- Excellent price-performance ratio



### F425

NON-  
FERR.



STONE



#### FEATURES

- High performance silicon carbide abrasive
- 0.8mm fibre backing

#### BENEFITS

- Very good cut rate with low pressure
- Self-sharpening
- Recommended for use on angle grinders



GOOD

### F293

FERR.  
& NON-  
FERR.

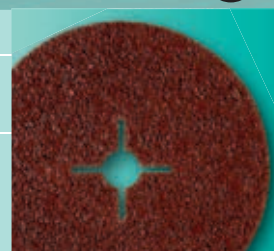


#### FEATURES

- High performance aluminium oxide abrasive
- 0.8mm fibre backing

#### BENEFITS

- General purpose
- General metal grinding, shaping & polishing
- Good cut rate
- Weld removal



GOOD

## F228

FERR. & NON-FERR.

### FEATURES

- Tough versatile aluminium oxide abrasive
- 0.8mm fibre backing

### BENEFITS

- Fast initial cut
- Ideal for general purpose metal applications

## MAXIMUM OPERATING SPEED

DIA (mm)	MOS (m/s)	MAX RPM
100	80	5300
115	80	13300
125	80	12300
150	80	10200
180	80	8600

■ The maximum peripheral operating speed of a fibre disc is 80m/s. This is communicated on the box label by way of a red stripe, which is a FEPA standard

## STANDARD

			GREENLYTE PLUS	GREENLYTE	NORZON PLUS	NORZON			
DIM DIAxH (mm)	GRIT	PK QTY	BEST		BETTER			GOOD	
			F971	F975	F861	F827	F425	F293	F228
100x16 	36	25		63642368921					
	60	25		63642368923					
115x22 	24	25				69957360048	63642545163	63642547861	07660707354
	36	25	63642568805	63642568819	69957395190	63642539615	63642537161	63642535056	07660707355
	50	25	63642568806	63642568820	69957395191	69957360053		07660705216	07660707356
	60	25	63642568807	63642568821	69957395192	63642539616	63642537239	63642536900	07660707357
	80	25	63642568808	63642568822	69957395193	63642539617	63642548543	07660705214	07660707358
	100	25						07660705213	07660707359
	120	25			69957395194	63642533055	63642512988	07660705212	07660707360
125x22 	24	25				63642539619	63642508423	63642547907	07660707366
	36	25	63642568809	63642568823	69957395195	63642536483	63642546187	63642547906	07660707361
	50	25	63642568810	63642568824	69957395196	63642539620		63642547905	07660707362
	60	25	63642568811	63642568825	69957395198	69957360057	63642551570	63642547904	07660707363
	80	25	63642568812	63642568826	69957395199	63642539622	63642507453	63642547903	07660707364
	100	25				63642536484		63642547902	66261153113
	120	25			69957395200	63642533056	63642507454	63642547901	07660707365
150x22 	24	25					63642552311		
	36	25					63642536911		
	60	25					63642507448		
	120	25					63642507451		
	220	25					69957351128		

Dimensions Key: DIM = Dimensions, DIA = Diameter, H = Hole

**STANDARD (CONTINUED)**

DIM DIAxH(mm)	GRIT	PK QTY	GREEN ALYTE PLUS		NORZON PLUS	NORZON			
			BEST		BETTER			GOOD	
			F971	F975	F861	F827	F425	F293	F228
180x22 	24	25				63642533062	63642534249	63642533108	07660707367
	36	25	63642568813	63642568827	69957395201	63642533063	69957360039	63642533107	07660707368
	50	25	63642568814	63642568828	69957395202	63642533064		63642535057	07660707369
	60	25	63642568815	63642568830	69957395204	63642533065	69957360040	63642533105	07660707370
	80	25	63642568816	63642568831	69957395206	63642533066	69957360041	63642533104	07660707371
	100	25				63642533067		63642533103	07660707372
	120	25			69957395207	63642533068	63642536718	63642533102	07660707373
	220	25					69957360044		

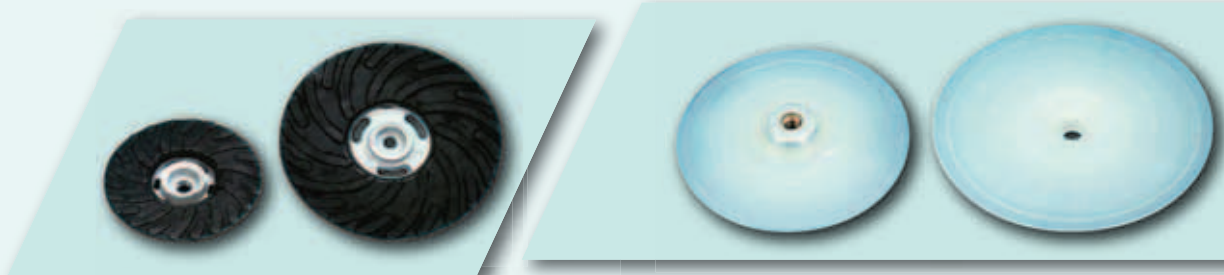
**MOULDED**

DIM DIAxH (mm)	GRIT	PK QTY	GREEN ALYTE PLUS		GREEN ALYTE		NORZON PLUS	
			BEST				BETTER	
			F971	F975	F861			
180x22 	36	100	63642568836		63642568832		69957395209	
	50	100	63642568837		63642568833		69957395210	
	60	100	63642568838		63642568834		69957395212	
	80	100	63642568839		63642568835		69957395213	
	120	100					69957395214	

**BACK-UP PADS**

AIRCOOL					NYLON				
DIA (mm)	DENSITY	ATTACHMENT	PK QTY		DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
100	Hard	M14	1	69957389886	100	HARD	M10	5	63642535414
115	Hard	M14	1	69957382821		MEDIUM	M10	5	63642535412
	Medium	M14	1	69957389797	115	HARD	M14	5	69957382828
125	Hard	M14	1	69957382823		MEDIUM	M14	5	69957382825
	Medium	5/8	1	63642588240	125	HARD	M14	5	69957382829
	Medium	M14	1	69957389803		MEDIUM	5/8	5	63642588341
178	X Hard	M14	1	63642596383	178	MEDIUM	M14	5	69957382826
	Hard	M14	1	69957382824		HARD	M14	5	69957382830
	Medium	5/8	1	63642588243	MEDIUM	5/8	5	63642588345	
	Medium	M14	1	69957389804	MEDIUM	M14	5	69957382827	

All Norton fibre disc back-up pads comply with ISO 15636 which is the International Worldwide standard for angle grinder pads



# SEMI-FLEXIBLE DISCS

Semi-flexible discs are made by coating heavy duty fibre with multiple layers of a special resin bonded abrasive. They can be used in a wide range of applications instead of depressed centre grinding wheels.

## APPLICATIONS & MARKETS

- Grinding welds
- Derusting large surfaces
- Cleaning hulls of ships & boats
- Cleaning cows' hooves



BEST

<b>Q200</b>	
FERR.	
FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ High concentration of aluminium oxide abrasive</li> <li>■ Unique disc pattern</li> </ul>	<ul style="list-style-type: none"> <li>■ For use on stainless steel, aluminium &amp; most other metals</li> <li>■ Resists loading</li> <li>■ Cooler work area</li> </ul>
<b>Q400</b>	
STONE	
FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ High concentration of sharp silicon carbide abrasive</li> <li>■ Unique disc pattern</li> </ul>	<ul style="list-style-type: none"> <li>■ For use on marble , granite, concrete, fibreglass &amp; cast iron</li> <li>■ Suitable for heavy duty industrial applications</li> <li>■ Longer lasting</li> <li>■ Resists loading</li> <li>■ Cooler work area</li> </ul>

Dimensions Key: DIM = Dimensions, DIA = Diameter, H = Hole

**BETTER**

## CP FLEX

STONE



### FEATURES

- Sharp silicon carbide abrasive grain
- Unique disc pattern

### BENEFITS

- For use on marble, granite, concrete, fibreglass & cast iron
- Ideal for use in construction markets
- Longer lasting
- Resists loading
- Cooler work area



## SPEC CHECK

- Semi-flexible discs should be used on an angle grinder with a hard density back-up pad which has the same diameter as the disc. All semi-flexible discs have a maximum operating speed of 80m/s

## CPA DISCS ALUMINIUM OXIDE

			<b>Q200</b>
			<b>BEST</b>
			<b>CONVEX</b>
DIM DIAxH(mm)	GRIT	PK QTY	
127x22 	24	25	07660717653
	36	25	07660717654
	60	25	07660717655
	80	25	07660717656
180x22 	24	25	07660717647
	36	25	07660717648
	60	25	07660717650
	80	25	07660717651

## CPS DISCS SILICON CARBIDE

			<b>Q400</b>	<b>CP FLEX</b>
			<b>BEST</b>	<b>BETTER</b>
DIM DIAxH (mm)	GRIT	PK QTY	MOULDED/CONVEX	FLAT
127x22 	16	25		07660707935
	24	25	07660705207	07660707937
	36	25	07660707946	07660707454
	60	25	07660718494	
	80	25	07660707948	
180x22 	16	25	07660705202	07660717646
	24	25	07660705203	07660707931
	36	25	07660705204	07660707933
	60	25	07660705205	07660707934
	80	25	07660705206	
	120	25	07660707943	

## BACK-UP PADS

DIA (mm)	DENSITY	ATTACHMENT	PK QTY	NYLON
125	Hard	M14	5	69957382829
180	Hard	M14	5	69957382830

All Norton semi-flexible disc back-up pads comply with ISO 15636 which is the International Worldwide standard for angle grinder pads

# FLAP DISCS

Norton flap discs are engineered for multiple applications including light stock removal, blending and finishing, meaning they can help reduce processing times and lower costs. Flap discs have a fast cut and provide a better finish than fibre while having the added benefit of a longer life.

## APPLICATIONS & MARKETS

- Stock removal
- Edge chamfering
- Deburring
- Rust/paint removal
- Cleaning & finishing
- Grinding & blending welds



INNOVATION  
BEST

### R980 X-TREME LIFE BLAZE



FERR. & NON-FERR.



#### FEATURES

- Next generation SG<sup>®</sup> ceramic abrasive grain
- Heavy polyester cloth
- Improved third layer Supersize coat that gives unique orange colour
- Fibreglass backing

#### BENEFITS

- Ideal for stainless steel, inconels, chromium cobalt, titanium or other hard-to-grind material
- Xtrem long life
- Promotes a cool & fast cut which gives higher metal removal rates & longer product life



### R880 JUMBO

FERR. & NON-FERR.

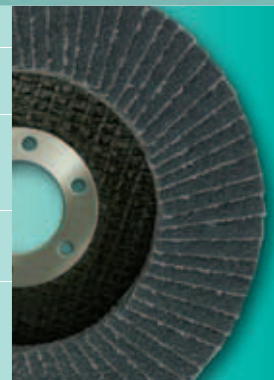


#### FEATURES

- High performance zirconia alumina abrasive grain
- Heavy backing with improved resistance to wear
- High density disc with extra-long flaps
- Fibreglass backing

#### BENEFITS

- Highly efficient on stainless & carbon steel
- Best for heavy duty applications
- Up to 30% longer life



#### SHAPE KEY



Flat



Conical

BEST

### RX22/R822 TWINSTAR

FERR.  
& NON-  
FERR.

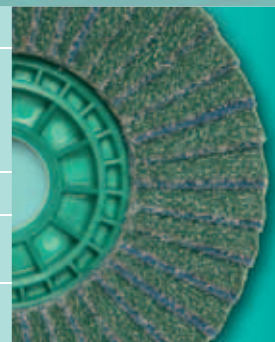


#### FEATURES

- Premium SG<sup>®</sup> ceramic aluminium oxide & Norzon<sup>®</sup> zirconia alumina abrasive blend
- Heavy cotton cloth
- High density disc with extra-large flaps
- Reinforced plastic backing

#### BENEFITS

- Aggressive stock removal with less pressure, giving a cooler cut
- Achieves a much longer life due to the high density of flaps



INNOVATION

BETTER

### R880 BLUE STAR

FERR.  
& NON-  
FERR.

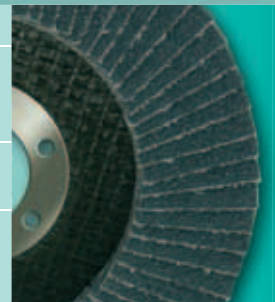


#### FEATURES

- High performance NorZon<sup>®</sup> zirconia alumina abrasive grain
- Heavy cloth with improved resistance to wear
- Available with fibreglass or plastic backings

#### BENEFITS

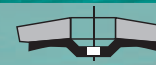
- Ideal for heavy duty applications



BETTER

### RX22/R822 NORSTAR

FERR.  
& NON-  
FERR.



#### FEATURES

- Premium SG<sup>®</sup> ceramic aluminium oxide & NorZon<sup>®</sup> zirconia alumina abrasive blend
- Heavy cotton cloth
- High content of active filler
- Fiberglass backing

#### BENEFITS

- Aggressive stock removal with less pressure



## R822 NORFIBER

FERR.  
& NON-  
FERR.



### FEATURES

- High performance NorZon® zirconia alumina abrasive grain
- Heavy cotton cloth
- Fibreglass backing

### BENEFITS

- Good stock removal



## R822 NORTECH

FERR.



### FEATURES

- NorZon® zirconia alumina abrasive grain
- Heavy cotton cloth
- Double flap disc construction
- Plastic backing

### BENEFITS

- Aggressive cut



## R822 BDX

FERR.



### FEATURES

- High performance NorZon® zirconia alumina abrasive grain
- Heavy cotton cloth
- Fibreglass backing

### BENEFITS

- Good stock removal



# BDX

## R82A NORTECH 2

FERR.



### FEATURES

- Norzon® zirconia alumina & aluminum oxide abrasive blend
- Heavy cotton cloth
- Double flap disc construction
- Plastic backing

### BENEFITS

- Aggressive cut



## R265 NORTECH

FERR.

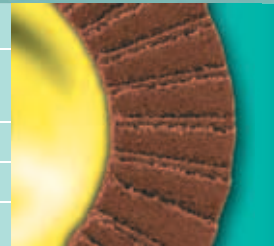


### FEATURES

- Durable aluminum oxide abrasive grain
- Heavy cotton cloth
- Double flap disc construction
- Plastic backing


### BENEFITS

- Fast initial cut rate especially on carbon steel



GOOD

## FIBREGLASS BACKED

			<i><b>SG BLAZE</b></i>	<i><b>JUMBO</b></i>	<i><b>BLUE STAR</b></i>	<i><b>NORSTAR</b></i>	<i><b>NORFIBER</b></i>	<i><b>BDX</b></i>
DIM DIAxH(mm)	GRIT	PK QTY	INNOVATION			BETTER	GOOD	
			BEST		BETTER		RX22/R822	R822
			R980	R880	R880			
 Conical								
115x22	36	10			69957351380	63642534666		
	40	10	69957392030	69957351401	69957351385	63642534667	63642553075	
	40	200*						63642515039
	60	10	69957392028	69957351402	69957351386	63642534668	63642553076	
	60	200*						63642515040
	80	10	69957394106	69957351403	69957351387	63642534669	63642553077	
	80	200*						63642549442
	120	10			69957351388	63642534670	69957387295	
125x22	36	10			69957351391	63642514934		
	40	10	69957392031	69957351404	69957351392	63642563571	63642553079	
	40	160*						63642550311
	60	10	69957392097	69957351405	69957351393	63642568611	63642553080	
	60	160*						63642550312
	80	10	69957394108	69957351406	69957351394	63642549404	63642553081	
	80	160*						63642515042
	120	10			69957351395	63642550474	69957387300	
180x22	36	10			69957351396	63642534671		
	40	10		69957351407	69957351397	69957336664	69957387302	
	40	60*						66261179318
	60	10		69957351408	69957351398	63642549405	69957387303	
	60	60*						66261179319
	80	10		69957351409	69957351399	63642549406	69957387304	
	80	60*						66261179320
	120	10			69957351400	69957353208	63642594667	
	120	60*						69957353178

\*Also available shrink-wrapped in 10

### SPEC CHECK

- Conical flap discs are designed to be used at an angle of 15-25°
- For an equivalent finish, always use a flap disc one grit size coarser than with a fibre disc

#### SHAPE KEY



Flat



Conical

Dimensions Key: DIM = Dimensions, DIA = Diameter, H = Hole

## FIBREGLASS BACKED

			<i><b>SG BLAZE</b></i>	<i><b>JUMBO</b></i>	<i><b>BLUE STAR</b></i>	<i><b>NORSTAR</b></i>	<i><b>NORFIBER</b></i>	<i><b>BDX</b></i>
DIM DIAxH(mm)	GRIT	PK QTY	INNOVATION			BETTER	GOOD	
			BEST		BETTER			
			R980	R880	R880	RX22/R822	R822	R822
 Flat								
115x22	40	200*						63642527334
	60	200*						63642527336
	80	200*						63642527337
	120	200*						69957353557
125x22	40	10			69957351424			
	40	160*						63642527341
	60	10			69957351425			
	60	160*						63642527343
	80	10			69957351426			
	80	160*						63642527347
	120	10			69957351427			
	120	160*						69957353180
180x22	40	60*						69957353181
	60	60*						69957353182
	80	60*						69957353183
	120	60*						69957353184

\* Also available shrink-wrapped in 10


## MAXIMUM OPERATING SPEED

DIA (mm)	MOS (m/s)	MAX RPM
115x22	80	13300
125x22	80	12200
180x22	80	8500



Dimensions Key: DIM = Dimensions, DIA = Diameter, H = Hole

**PLASTIC BACKED**

			<i><b>TWINSTAR</b></i>	<i><b>BLUE STAR</b></i>	<i><b>NORTECH</b></i>	<i><b>NORTECH 2</b></i>	<i><b>NORTECH</b></i>		
DIM DIAxH(mm)	GRIT	PK QTY	BEST	INNOVATION	GOOD				
			RX22/R822	BETTER R880	R822	R82A	R265		
			Flat						
115x22	40	10	636425 <b>45568</b>	699573 <b>51411</b>					
	40	200*			662610 <b>39431</b>	636425 <b>53609</b>	662610 <b>39427</b>		
	60	10	636425 <b>45570</b>	699573 <b>51412</b>					
	60	200*			662610 <b>39449</b>	636425 <b>53610</b>	662610 <b>39445</b>		
	80	10	636425 <b>45571</b>	699573 <b>51413</b>					
	80	200*			662610 <b>39457</b>	636425 <b>53611</b>	662610 <b>39453</b>		
	120	10	636425 <b>45573</b>	699573 <b>51414</b>					
125x22	40	10		699573 <b>51416</b>					
	40	160*			636425 <b>88032</b>				
	60	10		699573 <b>51417</b>					
	60	160*			636425 <b>88033</b>				
	80	10		699573 <b>51418</b>					
	80	160*			636425 <b>88031</b>				
	120	10		699573 <b>51419</b>					
180x22	40	10	636425 <b>45575</b>	699573 <b>51420</b>					
	40	60*			662610 <b>39476</b>	636425 <b>53613</b>	662610 <b>39474</b>		
	60	10	636425 <b>45576</b>	699573 <b>51421</b>					
	60	60*			636425 <b>14335</b>	636425 <b>53614</b>	662610 <b>39481</b>		
	80	10	636425 <b>45577</b>	699573 <b>51422</b>					
	80	60*			636425 <b>14336</b>	636425 <b>53615</b>	662610 <b>39485</b>		
	120	10	636425 <b>82372</b>	699573 <b>51423</b>					
	120	60*			699573 <b>53207</b>	636425 <b>53616</b>	699573 <b>53888</b>		

\* Also available shrink-wrapped in 10

**SPEC CHECK**

- For an equivalent finish, always use a flap disc one grit size coarser than with a fibre disc
- Flat flap discs are designed to be used at an angle less than 15°

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, H = Hole

Norton Multi-Air Process® combines the excellence of a premium Norton Multi-Air® abrasive disc with an innovative dust-extraction Multi-Air® back-up pad.

This revolutionary Multi-Air Process® gives operators the optimal sanding solution to optimise performance, increase productivity and eliminate dust.

**APPLICATIONS & MARKETS**

- Automotive
- Furniture
- Paint
- Composites
- Primer
- Marine gel coat
- Non-ferrous metals
- Aerospace



BEST	<b>MULTI-AIR® PLUS</b>		<b>MULTI-AIR PLUS</b>
	NON FERR.	PAINT/VARN. & SOFT WOOD	
	<b>FEATURES</b>	<b>BENEFITS</b>	
	■ New Norton SG® Ceramic abrasive blended with premium heat treated aluminium oxide abrasive	■ Higher & faster cut rate	
	■ New unique – blue fibre-reinforced latex paper	■ Consistent & uniform scratch pattern	
	■ Water based No-Fil®	■ Combines flexibility with tear resistance	
	■ No pigment in No-Fil® or bond	■ Resists clogging during use	
	■ Improved performance	■ No risk of colour transfer	
	■ Ideal for large surface areas	■ Extended life	
	■ Available in grits P80-400	■ Less downtime	
<b>MULTI-AIR® NORZON®</b>		<b>NORZON</b>	
NON FERR.	PAINT/VARN. HARD WOOD & SOFT WOOD		
<b>FEATURES</b>	<b>BENEFITS</b>		
■ Latest Norzon® grain design	■ Self-sharpening grain		
■ High strength paper backing (E-weight)	■ Improved cut rate for higher productivity		
■ Open grain distribution	■ Extended product life		
■ Full resin bond system	■ Reduces curling & edge chipping		
■ Strong & improved grain adhesion	■ Tear resistant		
■ Prevents premature clogging	■ Strong & improved grain adhesion		

BETTER

## MULTI-AIR®



NON FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD

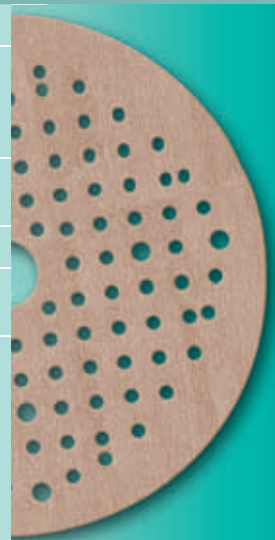


### FEATURES

- New premium, heat-treated aluminium oxide abrasive
- New unique fibre-reinforced latex paper
- Water based No-Fil®
- No pigment in No-Fil® or bond
- Available in grits P80-800

### BENEFITS

- Faster cut rate
- Flexible & tear resistant
- Improved load resistance
- No risk of colour transfer



## MULTI-AIR® SOFT-TOUCH®



NON FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD

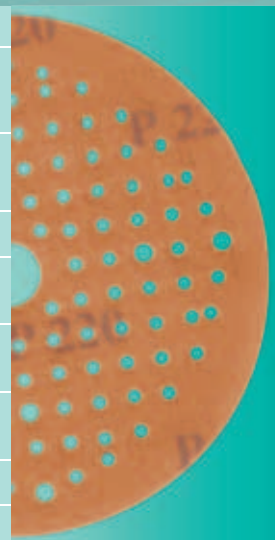


### FEATURES

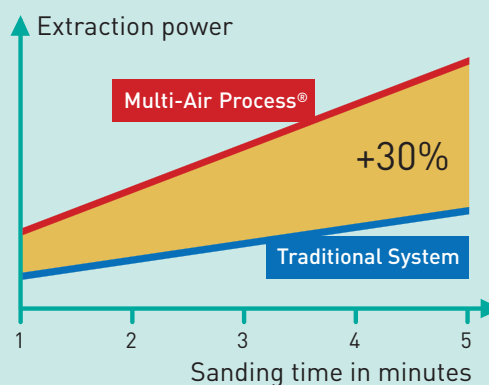
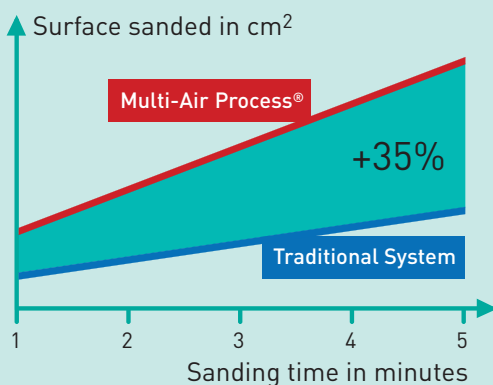
- New premium, heat treated aluminium oxide abrasive
- New unique fibre-reinforced latex paper
- Water based No-Fil®
- No pigment in No-Fil® or bond system
- Flexible foam backing with coloured Norgrip®
- Multi-Air® hole configuration
- Colour coded discs
- Available in grits P320-1500

### BENEFITS

- Faster cut rate
- Improved performance
- Flexible & tear resistant
- Improved load resistance
- No risk of colour transfer
- Allows contour sanding without cutting through coating layer
- Maximum dust extraction for a clean work surface & longer life
- For easy recognition of grit size
- Also available in Multi-Air® Plus



## ADVANTAGES OF MULTI-AIR PROCESS®

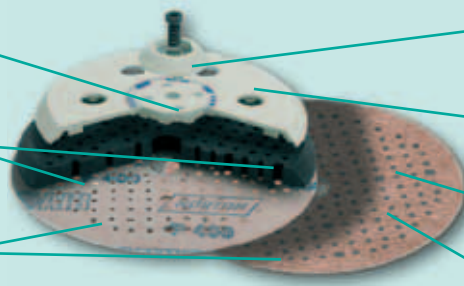


## NORTON MULTI-AIR PROCESS®

Universal backing pad fixings to suit most popular machine types

Dust extraction panels

Alignment holes allow accurate location to the backing pad



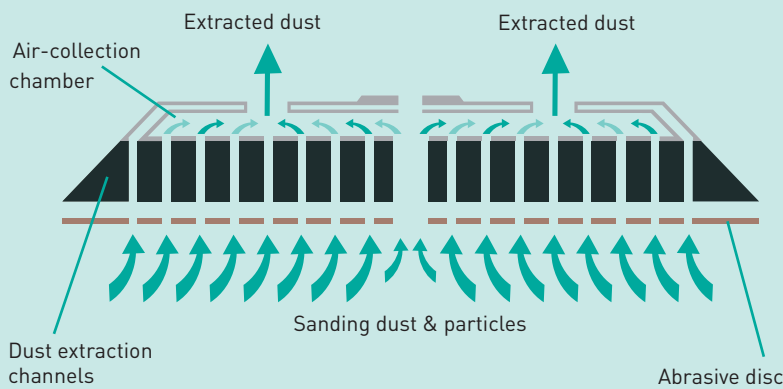
Adapters to suit Festo sanding machines

Choice of hard, medium or soft backing pads

Waterbased No-Fil® resists clogging during use

Premium aluminium oxide

### Dust Extraction System



#### EXTRACTION HOLES

- 181 holes maximise dust removal for 150mm
- 125 holes maximise dust removal for 125mm

The overall abrasive area is similar to that of conventional discs with traditional 6, 7 or 9 holes dust extraction



#### FEATURES

- Revolutionary design for maximum vacuum assistance
- Cutting surface of disc remains clean
- Highly-engineered back-up pad

#### BENEFITS

- 30% increase in dust extraction; clogging is virtually eliminated
- Cleaner working environment; less dust & contamination
- 35% increase in productivity versus traditional vacuum systems
- No clogging; consistent cut throughout the life of the disc
- Patented design for maximum dust extraction

## MULTI-AIR® PLUS KIT



GRIT	TYPE	PK QTY
80	Multi-Air® Plus	5
120	Multi-Air® Plus	5
240	Multi-Air® Plus	5
320	Multi-Air® Plus	5
	Multi-Air® Plus Soft-Touch®	3
400	Multi-Air® Plus	5
	Multi-Air® Plus Soft-Touch®	3
	Medium Multi-Air® Back-up Pad	1



BEST

69957395370



**MULTI-AIR®**




			<b>MULTI-AIR PLUS</b>	<b>MULTI-AIR NORZON</b>	<b>MULTI-AIR</b>
DIM DIAxH(mm)	GRIT	PK QTY	BEST		BETTER
125x18 	80	100	63642563535		63642563513
	120	100	63642563536		63642563514
	150	100	63642563537		63642563515
	180	100	63642563538		63642563516
	220	100	63642563539		63642563517
	240	100	63642563540		63642563518
	280	100	63642563541		63642563519
	320	100	63642563542		63642563520
	360	100			63642563521
	400	100	63642563543		63642563522
	500	100			63642563523
	600	100			63642563524
	800	100			63642563525
150x18 	80	50		66261181412	
	80	100	63642565916		63642560561
	120	100	63642523429		63642560562
	150	100	63642523430		63642560563
	180	100	63642565920		63642560564
	220	100	63642523434		63642560565
	240	100	63642523435		63642560566
	280	100	63642523436		63642560567
	320	100	63642523437		63642560568
	360	100			63642560569
	400	100	63642565925		63642560570
	500	100			63642560571
	600	100			63642560572
800	100			63642560573	

**MULTI-AIR® KIT**





**MULTI-AIR**

GRIT	TYPE	PK QTY	BETTER
80	Medium Multi-Air® NorZon®	5	<p>63642587576</p> 
120	Multi-Air®	5	
240	Multi-Air®	5	
320	Multi-Air®	5	
400	Multi-Air®	5	
	Multi-Air® Soft-Touch®	3	
500	Multi-Air® Soft-Touch®	3	
800	Multi-Air® Soft-Touch®	3	
	Medium Multi-Air® Back-up Pad	1	

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, H = Hole

## SOFT-TOUCH® MULTI-AIR®



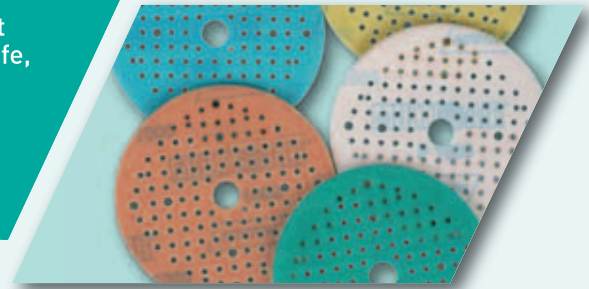
				MULTI-AIR PLUS	MULTI-AIR
DIM DIAxH(mm)	GRIT	COLOUR	PK QTY	BEST	BETTER
125x18 	320	Salmon	20	63642563544	63642563526
	400	Yellow	20	63642563545	63642563527
	500	Dark Blue	20		63642563528
	600	Fuchsia	20		63642563529
	800	Turquoise	20		63642563530
	1000	White	20		63642563531
	1500	Green	20		63642563532
150x18 	320	Salmon	20	63642586352	63642560574
	400	Yellow	20	63642586353	63642560575
	500	Dark Blue	20		63642560576
	800	Turquoise	20		63642560577
	1000	White	20		63642560578
	1500	Green	20		63642560579

## PRODUCT SELECTION

APPLICATION	GRIT	COLOUR
<b>SOFT-TOUCH DISCS®</b>		
Sanding cataphoretic coats & primer	320	Salmon
	400	Yellow
Sanding polyurethane primer	500	Dark Blue
	600	Fuchsia
Cutting back lacquer before a flush joint	800	Turquoise
Retouching clear coat	1000	White
Before polishing & buffing	1500	Green

## SPEC CHECK

- Multi-Air® Soft-Touch® discs are made with a specific soft foam backing with high performance & exceptional long life, directly attached to the abrasive paper
- The foam layer absorbs easily any difference in surface, maintaining an excellent cutting action with a very homogenous, high level finish



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, H = Hole

## BACK-UP PADS MULTI-AIR PROCESS®

DIM (mm)	DENSITY	ATTACHMENT	PK QTY	
125	Medium	5/16 & M8	1	636425 <b>63533</b>
	Soft	5/16 & M8	1	636425 <b>63534</b>
150	Hard	5/16 & M8	1	076607 <b>19198</b>
	Medium HT	5/16 & M8	1	636425 <b>5872</b>
	Medium	5/16 & M8	1	636425 <b>60580</b>
	Soft	5/16 & M8	1	636425 <b>60605</b>
	Rupes Adapter	M5	1	636425 <b>26648</b>

All Multi-Air Process® back-up pads are packed in individual boxes with Festo adapter M8 & 5/16 bolts & three fibre ring spaces

## FOAM INTERFACE PADS MULTI-AIR PROCESS®

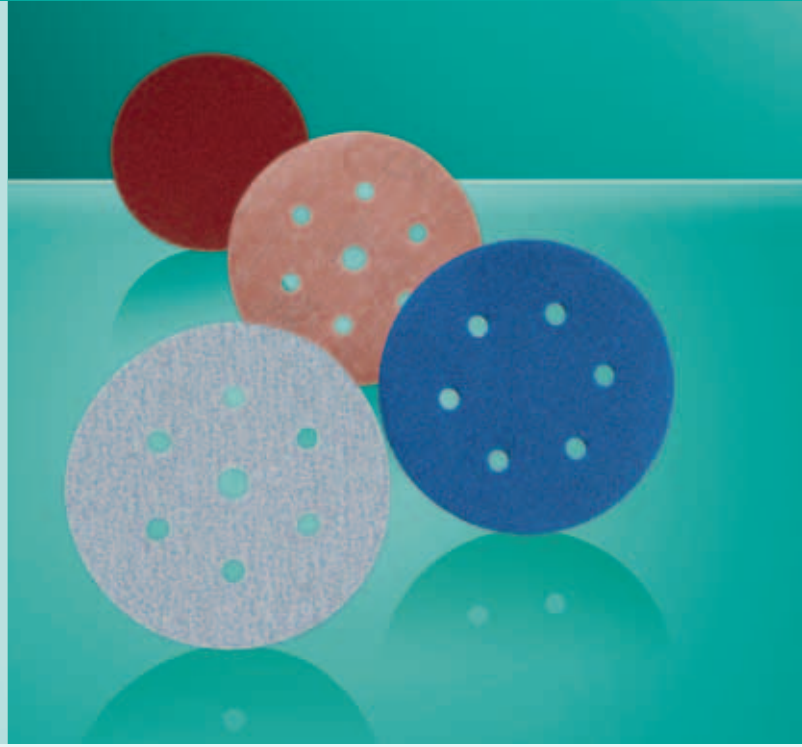
DIM (mm)	PK QTY	
125	16	636425 <b>5864</b>
150	12	076607 <b>19359</b>

## PRODUCT SELECTION

APPLICATION	DENSITY
<b>BACK-UP PADS</b>	
Heavy duty sanding, best for flattening surfaces or dimensioning	Hard
Scuffing, shaping, sanding & finishing	Medium
For use on filler, primer, paint, clear coat, wood, plaster, composites & metal	
Final sanding, to obtain the best finishes	Soft



Norgrip® and Soft-Touch® discs have a quick release backing that allows quick and easy disc changing, increasing performance by minimising downtime. Soft-Touch® discs also include a foam backing that improves product performance and gives an even longer product life. The foam layer absorbs unevenness in the surface, helping to maintain an excellent cutting action providing a very homogenous, high quality finish.



## APPLICATIONS & MARKETS

- Preparing primed & painted surfaces
- Stripping primer & paint
- Sanding plastic & fibreglass
- Light weld blending & deburring
- Sanding bare wood

## A975 NORTON PRO PLUS

NON  
FERR.



PAINT/  
VARN.  
& HARD  
WOOD



NORTON  
PRO PLUS



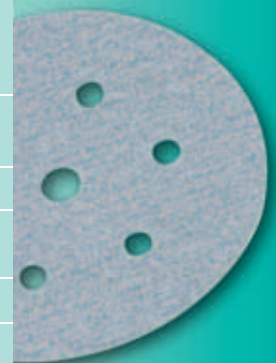
BEST

### FEATURES

- New Norton SG® ceramic abrasive blended with premium heat-treated aluminium oxide abrasive
- New unique blue fibre-reinforced latex paper
- Water based No-Fil®
- No pigment in No-Fil® or bond
- Improved performance
- Ideal for large surface areas
- Available in grits P80-400

### BENEFITS

- Higher & faster cut rate
- Ideal for large surfaces
- Consistent & uniform scratch pattern
- Combines flexibility with tear resistance
- Resists clogging during use
- No risk of colour transfer
- Extended life
- Less downtime



BEST

## H231

FERR.  
& NON  
FERR.



HARD  
WOOD

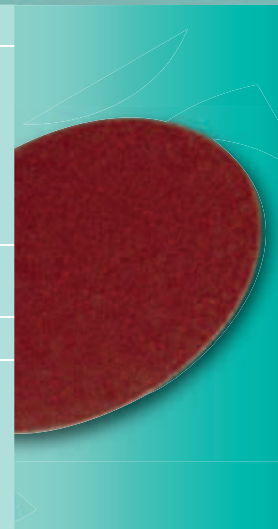


### FEATURES

- High performance aluminium oxide abrasive
- Semi-open / open coat (depending on grit size)
- Very strong, F-weight paper
- Anti-static properties

### BENEFITS

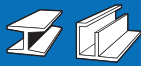
- Ideal for roughing, intermediate sanding & finishing of solid wood
- Ideal for floor & furniture applications
- Finer grits ideal for polishing metal, plastics & leathers, smoothing fillers, sanding primers, within vehicle repair markets
- Resists clogging
- High performance
- Excellent surface quality



BETTER

## H835 BLUE FIRE®

FERR.  
& NON  
FERR.



PAINT/  
VARN.  
& HARD  
WOOD

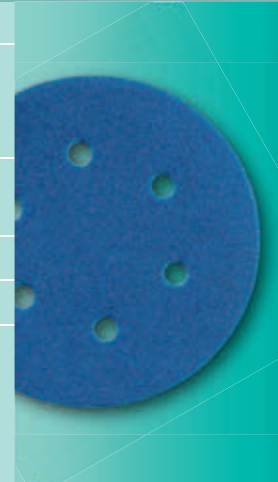


### FEATURES

- Latest NorZon® grain design
- High strength paper backing (E-weight)
- Open grain distribution
- Full resin bond system
- Available in grits 40-120

### BENEFITS

- Self-sharpening grain
- Improved cut rate
- Extended product life
- Reduces curling & edge chipping
- Tear resistant
- Prevents premature clogging
- Strong grain adhesion



BETTER

## A275 NORTON PRO

NON FERR. PAINT/VARN. HARD WOOD & SOFT WOOD





FEATURES	BENEFITS	
<ul style="list-style-type: none"> <li>■ New premium, heat-treated high performance aluminium oxide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Faster cut rate</li> <li>■ Improved performance</li> <li>■ More consistent uniform scratch pattern</li> </ul>	
<ul style="list-style-type: none"> <li>■ New unique fibre-reinforced latex paper</li> </ul>	<ul style="list-style-type: none"> <li>■ Flexible &amp; tear resistant</li> </ul>	
<ul style="list-style-type: none"> <li>■ Water based No-Fil®</li> </ul>	<ul style="list-style-type: none"> <li>■ Improved load resistance</li> </ul>	
<ul style="list-style-type: none"> <li>■ No pigment in No-Fil® or bond</li> </ul>	<ul style="list-style-type: none"> <li>■ No risk of colour transfer</li> </ul>	
<ul style="list-style-type: none"> <li>■ Available in Soft-Touch® discs with flexible foam backing &amp; coloured Norgrip®</li> </ul>	<ul style="list-style-type: none"> <li>■ Allows contour sanding without cutting through coating layer &amp; easy grit identification</li> </ul>	
<ul style="list-style-type: none"> <li>■ Available in Norgrip® grits P80-1500 &amp; Soft-Touch® Norgrip® grits 200-1500</li> </ul>		

NORGRIP® DISCS			NORTON PRO PLUS		BLUE FIRE	NORTON PRO
DIM DIAxH(mm)	GRIT	PK QTY	BEST		BETTER	
			A975	H231	H835	A275
76 	240	50				63642569718
	320	50				63642569731
	400	50				63642569719
	500	50				63642569720
	600	50				63642569721
	800	50				63642569723
76 	80	50				63642585133
	120	50				63642585145
	150	50				63642585148
	180	50				63642585150
	220	50				63642585153
	240	50				63642585156
	280	50				63642585161
	320	50				63642569699
	360	50				63642585165
	400	50				63642585169
	500	50				69957389051
	600	50				69957389052
800	50				63642585172	

Dimensions Key: DIM = Dimensions, DIA = Diameter, H = Hole



**NORGRIP® DISCS (CONTINUED)**



			<b>NORTON PRO PLUS</b>		<b>BLUE FIRE</b> 	<b>NORTON PRO</b>
DIM DIAxH(mm)	GRIT	PK QTY	BEST		BETTER	
			A975	H231	H835	A275
125 	36	100		662611 <b>76734</b>		
	40	25			699573 <b>50908</b>	
	60	25		636425 <b>16174</b>	699573 <b>50915</b>	
	80	50		636425 <b>16175</b>	699573 <b>50916</b>	
	120	50		636425 <b>16176</b>	699573 <b>50919</b>	
	180	100		636425 <b>37389</b>		
	240	100		699573 <b>60184</b>		
	320	100		636425 <b>37390</b>		
125x8 	80	100				699573 <b>51501</b>
	100	100				699573 <b>51503</b>
	120	100				699573 <b>51506</b>
	150	100				699573 <b>51508</b>
	180	100				699573 <b>51509</b>
	240	100				699573 <b>51510</b>
	320	100				699573 <b>51882</b>
	400	100				636425 <b>91163</b>
150 	36	100		636425 <b>51458</b>		
	40	25		636425 <b>31875</b>	699573 <b>90933</b>	
	50	100		699573 <b>60119</b>		
	60	25		636425 <b>19158</b>	699573 <b>90940</b>	
	80	50		636425 <b>46787</b>	699573 <b>91248</b>	636425 <b>85184</b>
	100	100		636425 <b>31872</b>		636425 <b>85186</b>
	120	50		636425 <b>31871</b>	699573 <b>91249</b>	636425 <b>69701</b>
	150	100		699573 <b>60170</b>		636425 <b>69702</b>
	180	100		636425 <b>36755</b>		636425 <b>85190</b>
	220	100				636425 <b>85194</b>
	240	100		636425 <b>46797</b>		636425 <b>85197</b>
	280	100				636425 <b>85199</b>
	320	100		636425 <b>36677</b>		636425 <b>69704</b>
	360	100				636425 <b>85205</b>
	400	100				636425 <b>85214</b>
	500	100				636425 <b>85217</b>
600	100				636425 <b>85220</b>	
800	100				636425 <b>85223</b>	

## NORGRIP® DISCS (CONTINUED)





			NORTON PRO PLUS		BLUE-FIRE	NORTON PRO
DIM DIAxH(mm)	GRIT	PK QTY	BEST		BETTER	
			A975	H231	H835	A275
150x14 	36	100		69957351529		
	40	25		66261026066	69957391250	
	60	25		69957382764	69957391255	
	80	50	63642527655	66261026069	69957391256	63642557950
	100	100		66261026070		63642586135
	120	50	63642527659	66261026071	69957391257	63642557954
	150	100	63642527657	66261026072		63642586141
	180	100	63642527661	69957351530		63642586142
	220	100	63642527662			63642586143
	240	100	63642527666	69957351531		63642557955
	280	100	63642527667			63642586144
	320	100	63642527669	69957351532		63642557959
	360	100				63642586148
	400	100	63642527670			63642557962
	500	100				63642586150
	600	100				63642557964
800	100				63642584990	
150x18 	40	25		63642550341	69957391258	
	60	25		63642536740	69957391260	
	80	50	63642527612	63642536741	69957391261	63642557968
	100	100		63642568763		63642585059
	120	50	63642565918	63642546779	69957391262	63642557969
	150	100	63642565919	63642546781		63642557970
	180	100	63642527633	63642546834		63642585064
	220	100	63642565921			63642585065
	240	100	63642565922	63642568766		63642585067
	280	100	63642565923			63642585069
	320	100	63642565924			63642557973
	360	100				63642585078
	400	100	63642527647			63642557974
	500	100				63642557975
600	100				63642585073	
800	100				63642585074	



Dimensions Key: DIM = Diameter, DIA = Diameter, H = Hole

**NORGRIP® DISCS (CONTINUED)**



			<b>NORTON PRO PLUS</b>		<b>BLUE FIRE</b> 	<b>NORTON PRO</b>
DIA (mm)	GRIT	PK QTY	BEST		BETTER	
			A975	H231	H835	A275
203 	40	25			69957391263	
	60	25			69957391268	
	80	50			69957391269	63642585236
	100	100				63642585242
	120	50			69957391272	63642585243
	150	100				63642585244
	180	100				63642585245
	220	100				63642585246
	240	100				63642585248
	280	100				63642585249
	320	100				63642585250
	360	100				63642585251
	400	100				63642585252



SOFT-TOUCH® DISCS				NORTON PRO
				BETTER
				A275
DIM DIAxH(mm)	GRIT	COLOUR	PK QTY	
150x14 	220	Red	20	63642557535
	240	Electric Blue	20	63642557538
	280	Grey	20	63642557541
	320	Salmon	20	63642557543
	360	Pink	20	63642557545
	400	Yellow	20	63642557546
	500	Dark Blue	20	63642557548
	600	Fuchsia	20	63642557550
	800	Turquoise	20	63642557551
	1000	White	20	63642557556
	1500	Green	20	63642557559
150x18 	220	Red	20	63642557561
	240	Electric Blue	20	63642557563
	280	Grey	20	63642557564
	320	Salmon	20	63642557565
	360	Pink	20	63642557567
	400	Yellow	20	63642557569
	500	Dark Blue	20	63642557570
	600	Fuchsia	20	63642557572
	800	Turquoise	20	63642557571
	1000	White	20	63642557573
	1500	Green	20	63642557574

## SPEC CHECK

- Norton Pro Soft-Touch® discs are made with a specific soft foam backing with high performance & exceptional long life, directly attached to the abrasive paper
- The foam layer absorbs easily any difference in surface, maintaining an excellent cutting action with a very homogenous, high quality finish



Dimensions Key: DIA = Diameter, H = Hole

# PRODUCT SELECTION

APPLICATION	GRIT	COLOUR
<b>SOFT-TOUCH DISCS®</b>		
Sanding of filler before primer	220	Red
	240	Electric Blue
Sanding of cataphoretic primer	280	Grey
	320	Salmon
Sanding of polyurethane primer	360	Pink
	400	Yellow
	500	Dark Blue
	600	Fuchsia
Cutting back lacquer before a flush joint	800	Turquoise
Retouching clear coat	1000	White
Before polishing & buffing	1500	Green



## PRODUCT SELECTION

ATTACHMENT TYPE	MACHINE
<b>BACK-UP PADS</b>	
M14	Electrical angle grinder
5/8	Electrical & pneumatic grinders (US tools)
M8	Festo orbital sander
5/16	Other orbital sanders
M6	Mirka or CP orbital sander
M5	Rupes orbital sander

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Different densities, available in most popular perforations/dust hole patterns</li> </ul>	<ul style="list-style-type: none"> <li>■ Applies to a full range of applications with optimal dust extraction</li> </ul>
<ul style="list-style-type: none"> <li>■ New back plate technology</li> </ul>	<ul style="list-style-type: none"> <li>■ Heavy duty design</li> <li>■ Long life</li> </ul>
<ul style="list-style-type: none"> <li>■ Attachments for different tools</li> </ul>	<ul style="list-style-type: none"> <li>■ Adapts to all common orbital sanders</li> </ul>
<ul style="list-style-type: none"> <li>■ Easy-peel technology</li> </ul>	<ul style="list-style-type: none"> <li>■ Longer life of gripping layer</li> </ul>
<ul style="list-style-type: none"> <li>■ Colour coding of foam layer</li> </ul>	<ul style="list-style-type: none"> <li>■ Easy &amp; quick hardness identification</li> </ul>



## BACK-UP PADS

DENSITY	COLOUR	APPLICATION
Hard	Black	Heavy duty sanding, best for flattening surfaces or dimensioning
Medium	Blue	Scuffing, shaping, sanding & finishing. For use on filler, primer, paint, clear coat, wood, plaster, composites & metal
Soft	Light Blue	Final sanding, to obtain the best finishes



Packed in clear individual display box including: safety recommendations, product information, mounting instructions, versatile attachment system (FESTO M8 and standard 5/16) and allen wrench

**BACK-UP PADS NORGRIP®**



DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
76 	Medium	5/16	6	699573 <b>96544</b>
	Medium	M6	6	699573 <b>50736</b>
115 	Medium	M14	3	699573 <b>50743</b>
125 	Medium	5/16	3	699573 <b>50739</b>
125 	Medium	M14	3	699573 <b>50744</b>
150 	Medium	M14	3	636425 <b>67812</b>
150 	Medium	5/16 & M8	3	636425 <b>84885</b>
150 	Hard	5/16 & M8	3	636425 <b>84830</b>
	Medium	5/16 & M8	3	636425 <b>84832</b>
	Soft	5/16 & M8	3	636425 <b>84834</b>
150 	Hard	5/16 & M8	3	636425 <b>84883</b>
	Medium	5/16 & M8	3	636425 <b>84884</b>
	Soft	5/16 & M8	3	636425 <b>84835</b>
150 	Medium	5/16 & M8	3	636425 <b>84842</b>
203 	Medium	M5	1	699573 <b>71442</b>

**WHAT IS NORGRIP® DUO?**



- A universal attachment system for both Norgrip® & self-adhesive discs provides the maximum flexibility of use & the optimal results during finishing
- The Norgrip® Duo combines an innovative design of gripping structures in the shape of flat-top mushrooms which provide a very uniform finish, while allowing both self-adhesive & Norgrip® discs to be used on this unique system

**NORGRIP® DUO**



**NORGRIP® STANDARD**





**BACK-UP PADS NORGRIP® DUO**



DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
33 	Medium	5/16	6	636425 <b>67811</b>
76 	Medium	5/16	6	636425 <b>67810</b>





**Dimensions Key:** DIA = Diameter

## HAND PAD NORGRIP®

DIA (mm)	DENSITY	PK QTY	
125 	Medium	10	63642596411
150 	Medium	10	63642596414
	Soft	6	63642596416



## FOAM INTERFACE BACK-UP PADS NORGRIP®

DIA (mm)	PK QTY	
76 	10	69957394589
150 	10	07660707383
150 	10	69957394590
150 	10	07660719360



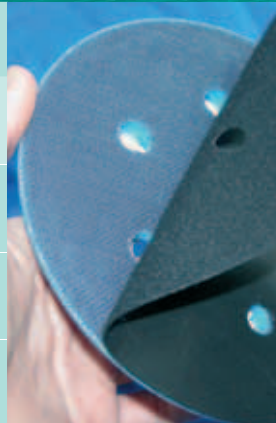
## SPEC CHECK

- Specially designed to give optimal results with very fine grit abrasives, the Norton foam interfaces easily conforms to contours. These are specifically developed for the finishing operation to reduce any risk of scratching
- Norgrip® discs can be used with the Norgrip® hand pad for manual application

## CONVERSION INTERFACES



DIA (mm)	PK QTY	NORGRIP® TO NORGRIP® DUO
76 	12	63642567847
150 	12	63642567842
150 	12	63642567848
150 	12	63642567850



## SPEC CHECK

- Convert a standard Norgrip® back-up pad into a Norgrip® Duo & reduce the time needed for back-up pad changes. Norgrip® Duo back-up pads can be used with both Norgrip® & Self-adhesive discs. They can be used with all types of Norton abrasives

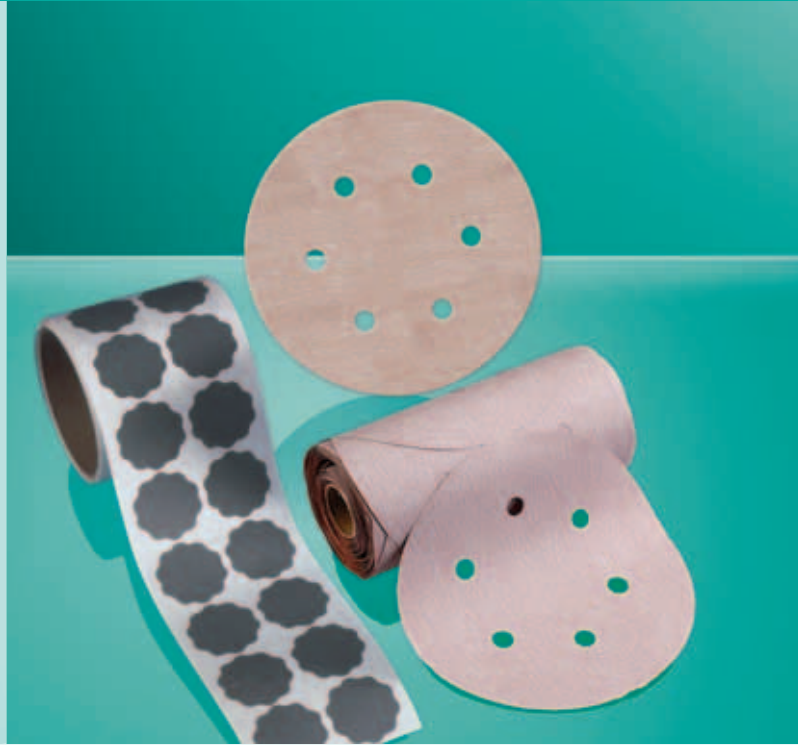


# SELF-ADHESIVE DISCS

Norton Premium quality self-adhesive discs can be securely fixed onto suitable back-up pads. The Norton Pro A275 self-adhesive discs are supplied on convenient dispenser rolls of 100 discs.

## APPLICATIONS & MARKETS

- Preparing primed & painted surfaces
- Stripping primer & paint
- Sanding plastic & fibre-glass
- Light weld blending & deburring
- Finishing metal



BETTER

## A275 NORTON PRO

NON FERR.

PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ New premium, heat-treated high performance aluminium oxide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Faster cut rate</li> <li>■ Improved performance</li> <li>■ More consistent uniform search pattern</li> </ul>
<ul style="list-style-type: none"> <li>■ New unique fibre-reinforced latex paper</li> </ul>	<ul style="list-style-type: none"> <li>■ Flexible &amp; tear resistant</li> </ul>
<ul style="list-style-type: none"> <li>■ Water based No-Fil®</li> </ul>	<ul style="list-style-type: none"> <li>■ Improved load resistance</li> </ul>
<ul style="list-style-type: none"> <li>■ No pigment in No-Fil® or bond</li> </ul>	<ul style="list-style-type: none"> <li>■ No risk of colour transfer</li> </ul>
<ul style="list-style-type: none"> <li>■ Supplied in roll form with 100 discs per roll &amp; 6 rolls in a dispenser box</li> </ul>	<ul style="list-style-type: none"> <li>■ Convenient, easy to store &amp; merchandise</li> </ul>
<ul style="list-style-type: none"> <li>■ Available in grits 80-800</li> </ul>	

## SPEC CHECK

- Dispenser for convenient & easy storage of A275 self-adhesive disc rolls

63642542772



## T402 BLACK ICE

**BLACKice**

**BETTER**

FERR.



PAINT/  
VARN.



### FEATURES

- Premium, ultra fine silicon carbide abrasive
- Advanced resin bond system
- Advanced, A-Weight waterproof paper backing design
- Supplied in rolls of 400 discs

### BENEFITS

- Best finish in wet clear-coat repair applications
- Longer life in wet applications
- Waterproof
- Ultimate flexibility & waterproof performance
- Convenient & easy to store






## SELF-ADHESIVE DISCS

			NORTON PRO	BLACKice
DIA (mm)	GRIT	PK QTY	BETTER	
			A275	T402
38	1500	400		636425 <b>34470</b>
	2000	400		699573 <b>60371</b>
	2500	400		636425 <b>61155</b>
125	80	6x100	662611 <b>31464</b>	
	100	6x100	662611 <b>31463</b>	
	120	6x100	662611 <b>31462</b>	
	150	6x100	662611 <b>31461</b>	
	180	6x100	662611 <b>31460</b>	
	220	6x100	662611 <b>31459</b>	
	240	6x100	662611 <b>31458</b>	
	280	6x100	662611 <b>31457</b>	
	320	6x100	662611 <b>31456</b>	
	400	6x100	662611 <b>31454</b>	
	500	6x100	662611 <b>31453</b>	
	600	6x100	662611 <b>31452</b>	
800	6x100	662611 <b>31451</b>		
125	80	6x100	662611 <b>31498</b>	
	100	6x100	662611 <b>31497</b>	
	120	6x100	662611 <b>31496</b>	
	150	6x100	662611 <b>31495</b>	
	180	6x100	662611 <b>31494</b>	
	220	6x100	662611 <b>31493</b>	
	240	6x100	662611 <b>31492</b>	
	280	6x100	662611 <b>31491</b>	

Dimensions Key: DIA = Diameter

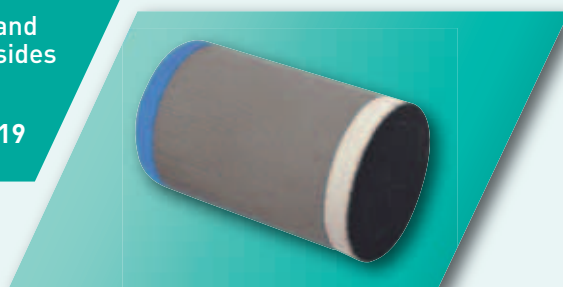
## SELF ADHESIVE DISCS (CONTINUED)

			<b>NORTON PRO</b>	<b>BLACKICE</b>
DIA (mm)	GRIT	PK QTY	BETTER	
			A275	T402
125 	320	6x100	66261131490	
	400	6x100	66261131488	
	500	6x100	66261131487	
	600	6x100	66261131486	
	800	6x100	66261131485	
150 	80	6x100	66261131481	
	100	6x100	66261131480	
	120	6x100	66261131479	
	150	6x100	66261131478	
	180	6x100	66261131477	
	220	6x100	66261131476	
	240	6x100	66261131475	
	280	6x100	66261131474	
	320	6x100	66261131473	
	400	6x100	66261131471	
	500	6x100	66261131470	
	600	6x100	66261131469	
	800	6x100	66261131468	
150 	80	6x100	66261131515	
	100	6x100	66261131514	
	120	6x100	66261131513	
	150	6x100	66261131512	
	180	6x100	66261131511	
	220	6x100	66261131510	
	240	6x100	66261131509	
	280	6x100	66261131508	
	320	6x100	66261131507	
	400	6x100	66261131505	
	500	6x100	66261131504	
600	6x100	66261131503		
800	6x100	66261131502		

### SPEC CHECK

- Designed to be used by hand with the maximum flexibility and versatility, the 33mm double-sided sanding block has two sides with different hardness: one for cutting, one for finishing

Pack quantity 12    63642567819



Dimensions Key: DIA = Diameter

## BACK-UP PADS SELF-ADHESIVE DISCS



DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
125 	Medium	5/16	3	699573 <b>96546</b>
150 	Medium	5/16 & M8	3	636425 <b>94551</b>
150 	Medium	5/16 & M8	3	636425 <b>94552</b>

## WHAT IS NORGRIP® DUO?



- A universal attachment system for both Norgrip® & self-adhesive discs provides the maximum flexibility of use & the optimal results during finishing
- The Norgrip® Duo combines an innovative design of gripping structures in the shape of flat-top mushrooms which provide a very uniform finish, while allowing both self-adhesive & Norgrip® discs to be used on this unique system

NORGRIP® DUO



NORGRIP® STANDARD



## BACK-UP PADS NORGRIP® DUO



DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
33 	Medium	5/16	6	636425 <b>67811</b>
76 	Medium	5/16	6	636425 <b>67810</b>

## CONVERSION INTERFACES



DIA (mm)	PK QTY	SELF-ADHESIVE TO NORGRIP® DUO
150 	6	636425 <b>67849</b>
150 	6	636425 <b>67851</b>



## SPEC CHECK

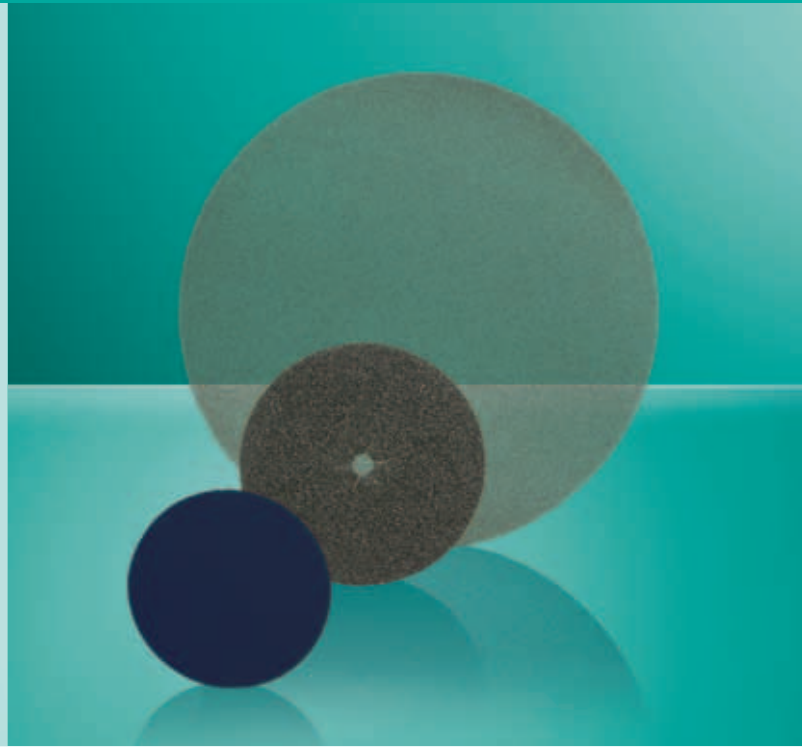
- Convert a self-adhesive back-up pad into a Norgrip® Duo & reduce the time needed for back-up pad changes. Norgrip® Duo back-up pads can be used with both Norgrip® & Self-adhesive discs. They can be used with all types of Norton abrasives

# PLAIN DISCS

Norton offers a range of plain sanding discs to suit all the most commonly encountered applications.

## APPLICATIONS & MARKETS


- Preparing primed & painted surfaces
- Stripping primer & paint
- Sanding plastic & fibreglass
- Light weld blending & deburring
- Finishing metal



BETTER

## H425

STONE

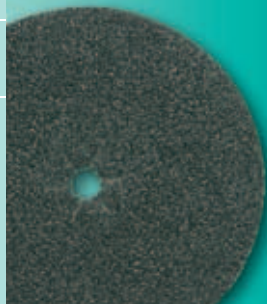


SOFT WOOD






FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Silicon carbide abrasive</li> <li>■ Strong E-weight paper</li> </ul>	<ul style="list-style-type: none"> <li>■ High cut rate</li> <li>■ For dry applications only</li> <li>■ Ideal for use on stone surfaces</li> </ul>




GOOD


## Q421 SCREEN-BAK®


PAINT/  
VARN.  
HARD  
WOOD




SOFT  
WOOD







FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Silicon carbide abrasive on an open mesh backing</li> </ul>	<ul style="list-style-type: none"> <li>■ Extreme resistance to loading</li> <li>■ Long life</li> <li>■ Waterproof</li> </ul>



GOOD

## G422

FERR.

PAINT/  
VARN.

STONE

★

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li><span style="color: #0070c0;">■</span> Silicon carbide abrasive</li> <li><span style="color: #0070c0;">■</span> Close coat</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: #0070c0;">■</span> Good cutting action</li> <li><span style="color: #0070c0;">■</span> Good performance</li> </ul>
<ul style="list-style-type: none"> <li><span style="color: #0070c0;">■</span> Strong E-weight paper</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: #0070c0;">■</span> Economy product</li> <li><span style="color: #0070c0;">■</span> Suitable for sanding marble, stone, wood, filler &amp; intermediate sanding of lacquer</li> </ul>

PLAIN DISCS			GOOD		
DIM DIAxH (mm)	GRIT	PK QTY	BETTER	GOOD	
			H425	Q421	G422
115x22 	220	100			63642551721
	400	100			63642524135
	600	100			63642547674
125 	220	100			63642592893
	320	100			63642592892
	400	100			63642592891
150x12 	36	100	63642546553		
	40	100	69957360199		
	50	100	63642546525		
	60	100	63642546527		
	80	100	63642546529		
	100	100	69957360218		
185x12 	36	100	63642546551		
	40	100	63642546533		
	50	100	63642546535		
	60	100	63642546537		
	80	100	63642546539		
	100	100	63642546541		
	120	100	63642546543		
185x22 	36	100	63642546559		
	40	100	63642546546		
	50	100	63642546547		
	60	100	63642546548		
	80	100	63642546549		
	100	100	63642546550		
406 	60	10		66261120519	
	80	10		63642536521	
	100	10		66261120517	
	120	10		66261120516	
	150	10		63642536524	
	180	10		63642515105	
	220	10		63642552254	
	320	10		63642551671	

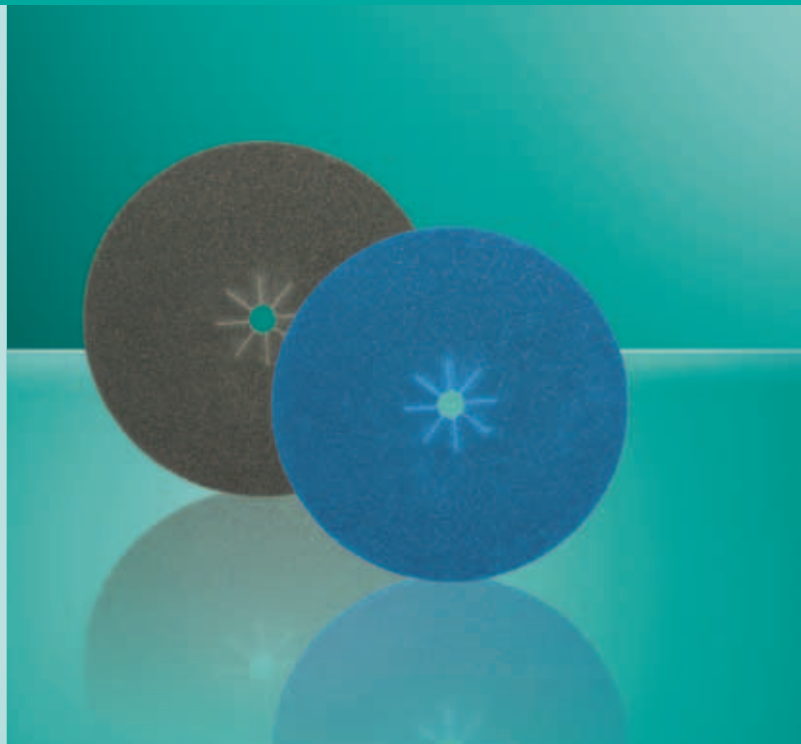
**Dimensions Key:** DIM = Dimensions, DIA = Diameter, H = Hole

# DOUBLE-SIDED DISCS

Norton offers a full range of double-sided discs designed to meet all commonly encountered applications. Double-sided discs have abrasive on both sides.

## APPLICATIONS & MARKETS

- Floor sanding



BETTER

<h3>H835 BLUE FIRE®</h3>		
PAINT/ VARN. & HARD WOOD		
FEATURES	BENEFITS	
<ul style="list-style-type: none"> <li>■ Latest NorZon® grain design</li> </ul>	<ul style="list-style-type: none"> <li>■ Self-sharpening grain</li> <li>■ Improved cut rate</li> <li>■ Extended product life</li> </ul>	
<ul style="list-style-type: none"> <li>■ High strength paper backing (E-weight)</li> </ul>	<ul style="list-style-type: none"> <li>■ Reduces curling &amp; edge chipping</li> <li>■ Tear resistant</li> </ul>	
<ul style="list-style-type: none"> <li>■ Open grain distribution</li> </ul>	<ul style="list-style-type: none"> <li>■ Prevents premature clogging</li> </ul>	
<ul style="list-style-type: none"> <li>■ Full resin bond system</li> </ul>	<ul style="list-style-type: none"> <li>■ Strong grain adhesion</li> </ul>	

<h3>H425</h3>		
SOFT WOOD	STONE	
FEATURES	BENEFITS	
<ul style="list-style-type: none"> <li>■ Extremely sharp silicon carbide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Ideal for use on stone surfaces</li> </ul>	
<ul style="list-style-type: none"> <li>■ Strong E-weight paper</li> </ul>	<ul style="list-style-type: none"> <li>■ High cut rate</li> <li>■ For dry applications only</li> </ul>	

**BETTER**

### S413

PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD

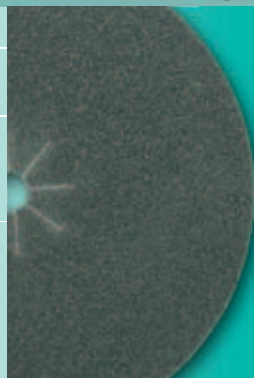


#### FEATURES

- Very strong combination backing
- Sharp silicon carbide abrasive
- Very open grain distribution

#### BENEFITS

- High tear resistance
- Very high cutting action for rough floor sanding applications
- Long life
- Aggressive cut & clog resistant



### S422

PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD

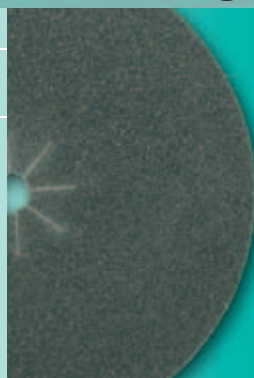


#### FEATURES

- Very strong combination backing
- Sharp silicon carbide abrasive

#### BENEFITS

- High tear resistance
- Very high cutting action on hard wood



## DOUBLE-SIDED DISCS

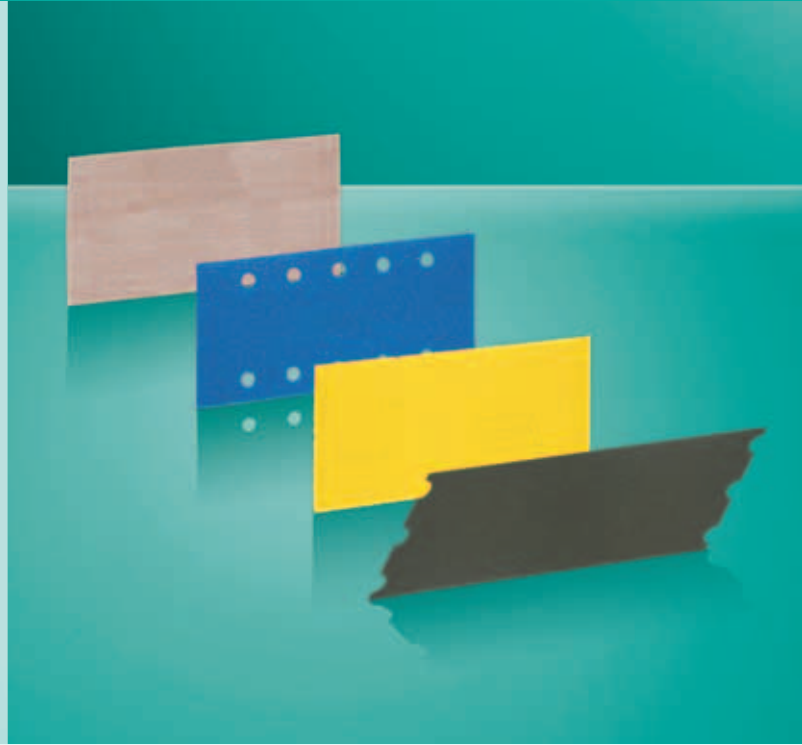
			<b>BLUE FIRE</b> 			
DIM DIAxH(mm)	GRIT	PK QTY	BETTER			
			H835	H425	S413	S422
425x30 	16	25			66261033840	
	20	25			66261033842	
	24	25			63642534134	
	30	25			66261033843	
	36	25		63642534436		66261033844
	40	25		66261033845		
	50	25		66261033846		
	60	25	69957351116	66261032342		
	80	25	69957351117	66261032341		
	100	25	69957351118	63642532881		
120	25	69957351119	63642532882			







**Dimensions Key:** DIM = Dimensions, DIA = Diameter, H = Hole

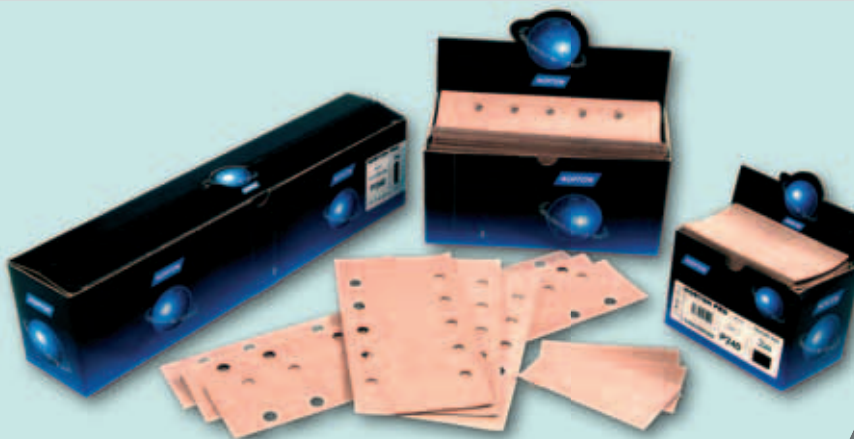
Norton offers a full range of cut sheets for hand and machine use, providing a range of efficient, user-friendly abrasive solutions. The extended range of dimensions and grits complies with all commonly encountered applications.

## APPLICATIONS & MARKETS

- Flatten sharp edges & large surface areas
- Deburring
- Removing sanding scratches



A275 NORTON PRO		NORTON PRO	
BETTER	NON FERR. 	PAINT/WARN. HARD WOOD & SOFT WOOD   	
	FEATURES	BENEFITS	
	<ul style="list-style-type: none"> <li>■ New premium, heat-treated high performance aluminium oxide abrasive</li> <li>■ New unique fibre-reinforced latex paper</li> <li>■ Water based No-Fil®</li> <li>■ No pigment in No-Fil® or bond</li> <li>■ Available in grits 80-1000</li> </ul>	<ul style="list-style-type: none"> <li>■ Faster cut rate</li> <li>■ Improved performance</li> <li>■ More consistent uniform scratch pattern</li> <li>■ Flexible &amp; tear resistant</li> <li>■ Improved load resistance</li> <li>■ No risk of colour transfer</li> </ul>	
			
			



BETTER

## H425

STONE



SOFT  
WOOD



### FEATURES

- Silicon carbide abrasive
- Strong E-weight paper backing

### BENEFITS

- Ideal for use on stone surfaces
- High cut rate
- For dry applications only



## H835 BLUE FIRE®

FERR.  
& NON  
FERR.



PAINT/  
VARN.  
& HARD  
WOOD

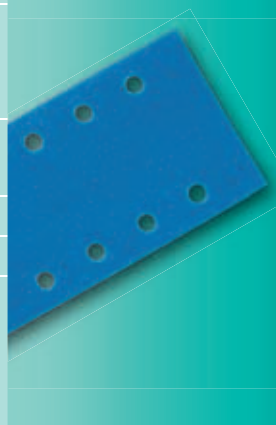


### FEATURES

- Latest Norzon® grain design
- High strength paper backing (E-weight)
- Open grain distribution
- Full resin bond system
- Available in grits 40-120

### BENEFITS

- Self-sharpening grain
- Improved cut rate
- Extended product life
- Reduces curling & edge chipping
- Tear resistant
- Prevents premature clogging
- Strong grain adhesion



GOOD

## G131

HARD  
WOOD  
& SOFT  
WOOD



### FEATURES



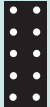

- Aluminium oxide abrasive
- E-weight paper backing

### BENEFITS

- Good performance
- Economy product






## PAPER SHEETS

			NORTON PRO		
DIM WxL(mm)	GRIT	PK QTY	BETTER		GOOD
			A275	H425	G131
93x230 	36	50			69957352150
	40	50			69957352151
	50	50			69957352152
	60	50			69957352153
	80	50			69957352154
	100	50			69957352155
	120	50			69957352159
	150	50			69957352158
	180	50			69957352157
	220	50			69957352156
115x280 	80	50	63642588214		
	100	50	63642588216		
	120	50	63642588217		
	150	50	63642588218		
	180	50	63642588221		
	220	50	63642588222		
	240	50	63642588223		
	280	50	63642588224		
	320	50	63642588225		
	400	50	63642588226		
500	50	63642588227			
600	50	63642588228			
1000	50	63642514399			
115x280 	36	50			69957352138
	40	50			69957352139
	50	50			69957352137
	60	50			69957351278
	80	50			69957352140
	100	50			69957352141
	120	50			69957352146
	150	50			69957352145
	180	50			69957352144
	220	50			69957352142
203x478 	40	25		63642519223	
	60	25		63642519224	
	80	25		63642516181	
	100	25		63642519225	

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**NORGRIP® SHEETS**






			<b>NORTON PRO</b>	<b>BLUE FIRE</b> 
DIM WxL(mm)	GRIT	PK QTY	BETTER	
			A275	H835
70x125 	80	100	636425 <b>58002</b>	
	100	100	636425 <b>85263</b>	
	120	100	636425 <b>85272</b>	
	150	100	636425 <b>58005</b>	
	180	100	636425 <b>85274</b>	
	220	100	636425 <b>85281</b>	
	240	100	636425 <b>85284</b>	
	280	100	636425 <b>85286</b>	
	320	100	636425 <b>58006</b>	
	360	100	636425 <b>85291</b>	
	400	100	636425 <b>85294</b>	
	500	100	636425 <b>69777</b>	
	600	100	636425 <b>69669</b>	
800	100	636425 <b>69670</b>		
70x198 	40	25		699573 <b>90890</b>
	60	25		699573 <b>90892</b>
	80	50		699573 <b>90896</b>
	80	100	636425 <b>85468</b>	
	100	100	636425 <b>85475</b>	
	120	50		699573 <b>90901</b>
	120	100	636425 <b>85477</b>	
	150	100	636425 <b>85479</b>	
	180	100	636425 <b>85481</b>	
	220	100	636425 <b>85492</b>	
	240	100	636425 <b>85493</b>	
	280	100	636425 <b>85494</b>	
	320	100	636425 <b>85495</b>	
	360	100	636425 <b>85496</b>	
	400	100	636425 <b>85497</b>	
500	100	636425 <b>85498</b>		



## NORGRIP® SHEETS (CONTINUED)






			NORTON <b>PRO</b>	BLUE <b>FIRE</b> 
DIM WxL(mm)	GRIT	PK QTY	BETTER	
			A275	H835
70x420 	40	25		69957390902
	60	25		69957390905
	80	50		69957390909
	80	100	63642585549	
	100	100	63642585551	
	120	50		69957390910
	120	100	63642585555	
	150	100	63642585558	
	180	100	63642585561	
	220	100	63642585566	
	240	100	63642585568	
	280	100	63642585573	
	320	100	63642585576	
	360	100	63642585578	
	400	100	63642585579	
500	100	63642585580		
80x133 	40	25		69957390920
	60	25		69957390922
	80	50		69957390923
	80	100	63642585306	
	100	100	63642585317	
	120	50		69957390925
	120	100	63642585319	
	150	100	63642585322	
	180	100	63642585323	
	220	100	63642585326	
	240	100	63642585328	
	280	100	63642585329	
	320	100	63642585331	
	360	100	63642585337	
	400	100	63642585345	
500	100	63642585349		

Dimensions Key: DIM = Dimensions, W = Width, L = Length



**NORGRIP® SHEETS (CONTINUED)**



			<b>NORTON PRO</b>	<b>BLUE FIRE</b> 
DIM WxL(mm)	GRIT	PK QTY	BETTER	
			A275	H835
81x153 	40	25		699573 <b>90884</b>
	60	25		699573 <b>90886</b>
	80	50		699573 <b>90885</b>
	80	100	636425 <b>85372</b>	
	100	100	636425 <b>85376</b>	
	120	50		699573 <b>90873</b>
	120	100	636425 <b>85377</b>	
	150	100	636425 <b>85378</b>	
	180	100	636425 <b>85383</b>	
	220	100	636425 <b>85384</b>	
	240	100	636425 <b>85399</b>	
	280	100	636425 <b>85400</b>	
	320	100	636425 <b>85402</b>	
	360	100	636425 <b>85403</b>	
	400	100	636425 <b>85406</b>	
500	100	636425 <b>85407</b>		
93x180 	40	25		699573 <b>90927</b>
	60	25		699573 <b>90930</b>
	80	50		699573 <b>90931</b>
	80	100	636425 <b>85409</b>	
	100	100	636425 <b>85412</b>	
	120	50		699573 <b>90932</b>
	120	100	636425 <b>85422</b>	
	150	100	636425 <b>85424</b>	
	180	100	636425 <b>85428</b>	
	220	100	636425 <b>85431</b>	
	240	100	636425 <b>85438</b>	
	280	100	636425 <b>85442</b>	
	320	100	636425 <b>85446</b>	
	360	100	636425 <b>85454</b>	
	400	100	636425 <b>85458</b>	
500	100	636425 <b>85461</b>		

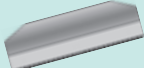
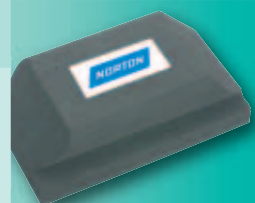
## NORGRIP® SHEETS (CONTINUED)



			NORTON PRO	BLUE FIRE
DIM WxL(mm)	GRIT	PK QTY	BETTER	
			A275	H835
100x150 	40	25		69957391019
	60	25		69957391020
	80	50		69957391023
	80	100	69957391028	
	120	50		69957391025
	120	100	69957391030	
	150	100	69957391033	
	180	100	69957391034	
	220	100	69957391037	
	240	100	63642576688	
	280	100	69957351543	
	320	100	69957351544	
	360	100	69957351545	
	400	100	69957351546	
	500	100	69957351547	
115x230 	40	25		69957390911
	60	25		69957390915
	80	50		69957390917
	80	100	63642585506	
	100	100	63642585507	
	120	50		69957390918
	120	100	63642558012	
	150	100	63642585508	
	180	100	63642558013	
	220	100	63642585511	
	240	100	63642558014	
	280	100	63642585517	
	320	100	63642585533	
	360	100	63642585536	
	400	100	63642585538	
500	100	63642585543		

## PLAIN SANDING BLOCK NORGRIP®



	DIM WxL(mm)	PK QTY		
	70x125	15	07660705180	

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**PERFORATED SANDING BLOCKS NORGRIP®**



	DIM WxL(mm)	PK QTY	BETTER
	70x198 	1	69957384977
	70x125 	1	07660740445
	70x400 	1	07660719282
	115x230 	1	07660719281
	81x153 	1	07660719284

**PERFORATED SANDING BLOCK ACCESSORIES**

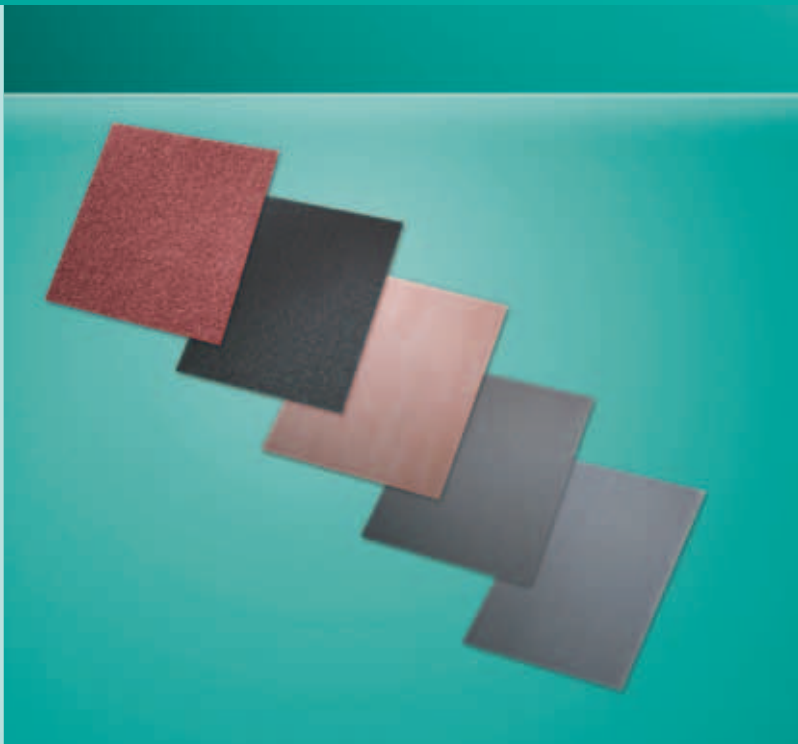
	PK QTY	BETTER
FLEXIBLE 4 METRE PIPE	1	69957371450



Norton offers a wide range of paper, cloth & waterproof sheets for use in all commonly encountered industrial applications.

### APPLICATIONS & MARKETS

- Metal sanding
- Bare wood sanding
- Sanding between coats
- Scale & rust removal
- Scouring & light deburring



BEST

## T402/T417 BLACK ICE®

FERR.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Premium, ultra fine silicon carbide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Best finish in wet clear-coat repair applications</li> </ul>
<ul style="list-style-type: none"> <li>■ Advanced resin bond system</li> </ul>	<ul style="list-style-type: none"> <li>■ Waterproof</li> <li>■ Longer life in wet applications</li> </ul>
<ul style="list-style-type: none"> <li>■ Advanced, A-weight waterproof paper backing design</li> </ul>	<ul style="list-style-type: none"> <li>■ Ultimate flexibility &amp; waterproof performance</li> </ul>

BETTER

## T489

FERR.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Silicon carbide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Advanced product</li> </ul>
<ul style="list-style-type: none"> <li>■ Waterproof paper backing</li> </ul>	<ul style="list-style-type: none"> <li>■ Flexible</li> </ul>

BETTER

## A275 NORTON PRO



NON  
FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Premium heat-treated aluminium oxide abrasive blend
- Fibre-reinforced latex, B-weight paper
- Water based No-Fil® anti-loading third layer
- No pigments in No-Fil® or bonding system

### BENEFITS

- Long lasting, fast cut rate
- Tear resistant
- Can be used wet
- Suitable for use on primer, paint filler & coating sanding (for automotive & transport applications)
- Good finish
- Resists loading & extends life
- Can be used for composite & gel coat sanding (for marine market, etc.)
- No risk of colour transfer
- Ideal for wooden furniture preparation



## R222

FERR.  
& NON  
FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Aluminium oxide abrasive
- J-weight cloth backing

### BENEFITS

- Flexible product



## Q222

FERR.  
& NON  
FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Aluminium oxide abrasive
- Non-woven cotton backing

### BENEFITS

- Waterproof
- Tear resistant
- Polyvalent product



GOOD

## A213

HARD WOOD & SOFT WOOD



### FEATURES

- Aluminium oxide abrasive
- C-weight paper backing

### BENEFITS

- Aggressive cutting action for all dry sanding applications
- Designed for heavy & light duty hand sanding



## A621

FERR. & NON FERR.



### FEATURES


- Natural Emery abrasive
- Paper backing

### BENEFITS

- Smooth abrasive cut
- Gives very fine surface finishing




## WATERPROOF SHEETS

			<b>BLACKICE</b>	
DIM WxL(mm)	GRIT	PK QTY	BEST	BETTER
			T402/T417	T489
230x280 	60	50		63642532956
	80	50	66261021180	63642532988
	100	50	66261021182	63642532989
	120	50	66261021183	63642532990
	150	50	66261021184	63642532991
	180	50	66261021185	63642532957
	220	50	66261021186	63642532992
	240	50	66261021187	63642532993
	280	50	66261021188	63642532994
	320	50	66261021189	63642532995
	360	50	66261021190	63642532996
	400	50	66261021191	63642532997
	500	50	66261021192	63642532998
	600	50	66261021193	63642532999
	800	50	66261021195	63642533000
	1000	50	66261021196	63642533001
	1200	50	66261021197	63642533002
1500	50	63642534713		
2000	50	63642534719		
2500	50	63642565497		

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**PAPER SHEETS**

			<b>NORTON PRO</b>		
DIM WxL(mm)	GRIT	PK QTY	BETTER		
			A275	GOOD	
			A213	A621	
230x280 	36	25		63642538960	
	40	25		63642536385	
	50	50		63642536386	
	60	50		63642536387	
	80	50		69957360388	
	80	100	63642558015		
	100	100	63642585256	69957360389	
	120	100	63642558016	69957360390	
	150	100	63642586145	69957360391	
	180	100	63642558017	63642531774	66261101267
	220	100	63642586139	63642536411	66261101265
	240	100	63642558018	69957360394	
	280	100	63642585742		66261101263
	320	100	63642586132	69957360396	
	360	100	63642586133		
	400	100	63642586134	63642539112	
	500	100	63642586136		66261101261
600	100	63642586137		66261101260	
800	100	63642586138			
1000	100			66261101259	
1200	100			66261101258	

**CLOTH SHEETS**

DIM WxL(mm)	GRIT SIZE	PK QTY	BETTER	
			R222	Q222
230x280 	36	25	63642531775	
	40	25	63642531776	69957360506
	50	25	63642531777	
	60	25	63642531778	63642536405
	80	50	63642531779	63642536407
	100	50	63642531780	63642536408
	120	50	63642531781	63642536410
	150	50	63642531782	63642536413
	180	50	63642531783	63642531773
	220	50	63642531785	63642563323
	240	50	63642531786	
	280	50	63642531788	
	320	50	63642531789	
	400	50	63642531790	
	600	50	63642534613	

# ABRASIVE SPONGES & STEEL WOOL

Abrasive sanding sponges are designed for use on a wide variety of materials including wood, paint and metal. Their flexible nature means they can be used on curved, contoured and flat surfaces.

## APPLICATIONS & MARKETS

- Light stock removal
- Sanding contours & intricate shapes
- Finishing
- Removing minor defects
- Clear coat sanding
- Base coat sanding
- Scuffing primer
- Shaping filler



BETTER

SPONGES	
FERR. & NON FERR.	PAINT/VARN. HARD WOOD & SOFT WOOD
GLASS	
FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Multi-purpose</li> </ul>	<ul style="list-style-type: none"> <li>■ Can be used wet or dry</li> </ul>
<ul style="list-style-type: none"> <li>■ Flexible</li> </ul>	<ul style="list-style-type: none"> <li>■ Conform to surface shapes &amp; contours providing a uniform finish</li> <li>■ Can reach areas inaccessible to sandpaper sheets</li> </ul>
<ul style="list-style-type: none"> <li>■ Washable</li> </ul>	<ul style="list-style-type: none"> <li>■ Can be reused, giving added product life</li> </ul>

BETTER

STEEL WOOL	
PAINT/VARN. & SOFT WOOD	
FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Made from strands of ultra-fine steel filaments</li> </ul>	<ul style="list-style-type: none"> <li>■ For use on wood, paint, metal, stone, marble &amp; glass</li> <li>■ Can be used with a chemical stripper</li> <li>■ Ideal for cleaning &amp; fine finishing</li> </ul>

## SOFT-TOUCH CONTOUR PADS 1 SIDED

DIM LxWxH(mm)	GRIT	FINISH GENERATED*	PK QTY	BETTER
140x115x6	60	180/120	20	63642550599
	100	400/320	20	63642550601
	180	600/500	20	63642550602
	220	1000/800	20	63642550603
	280	1500/1200	20	63642550604

\*Generates a finer finish than conventional coated abrasive products

## FLEXIBLE FINISHING PADS 2 SIDED

DIM LxWxH(mm)	GRIT	PK QTY	BETTER
123x98x12,5	60	60	07660717578
	60	250	07660719341
	100	60	07660705187
	100	250	07660719342
	180	60	07660705188
	180	250	07660719343

## FLEXIBLE SANDING SPONGES 4 SIDED

DIM LxWxH(mm)	GRIT	PK QTY	BETTER
100x66x26	60	60	07660717579
	60	250	07660719344
	100	60	07660705189
	100	250	07660719345
	180	60	07660705190
	180	250	07660719346

## STEEL WOOL

WEIGHT	GRADE	PK QTY	BETTER
1Kg	0000	12	63642593149
1Kg	000	12	63642593151
1Kg	00	12	63642593153
1Kg	0	12	63642593154
1Kg	1	12	63642593155
500g	Very Coarse	18	63642593156

Dimensions Key: DIM = Dimensions, L = Length, W = Width, H = Height

Coated abrasive rolls are ideal for fast easy sanding of various materials. They can be torn to exact lengths as needed.

## APPLICATIONS & MARKETS

- Light deburring
- Removing rust & scale
- Sanding & polishing
- Bare wood sanding
- Hand sanding
- Machine sanding on eccentric sanders
- Paint & plaster sanding
- Floor sanding



### H231

FERR.  
& NON  
FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



#### FEATURES

- Very strong F-weight paper
- High performance aluminium oxide abrasive
- Open grain distribution
- Anti-static properties

#### BENEFITS

- Ideal for sanding flat wooden or painted surfaces
- Suitable for metal surface finishing
- Reduces clogging
- Helps minimise dust when used with an appropriate extraction system



### Q132

FERR.

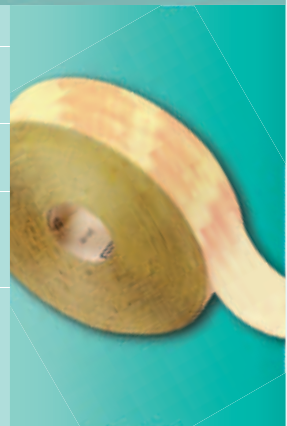


#### FEATURES

- 75µm polyester film backing
- Premium aluminium oxide abrasive
- Technical product for roll grinding & finishing bearings
- Ecological waterbased resin system

#### BENEFITS

- Provides very fine consistent finish
- Graded in microns
- Provides excellent bearing areas



BEST

## A275 NORTON PRO



NON  
FERR.



PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Fibre-reinforced latex, B-weight paper
- Premium heat-treated aluminium oxide abrasive blend
- Water based No-Fil® anti-loading third layer
- No pigments in No-Fil® or bonding system

### BENEFITS

- Tear resistant
- Can be used wet
- Suitable for use on primer, paint filler & coating sanding (for automotive & transport applications)
- Long lasting, fast cut rate
- Good finish
- Resists loading & extends life
- Can be used for composite & gel coat sanding (for marine market, etc.)
- No risk of colour transfer
- Wooden furniture preparation



BETTER

## ROTOLO FOAM® ROLLS A275

PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- A275 Norton Pro premium abrasive paper
- Special No-Fil® coating
- Flexible foam backing
- Water-resistant
- 25m long roll of pre-cut sheets
- Packed in innovative dispenser box

### BENEFITS

- Excellent for fine sanding with high finishing level
- Reduces clogging
- Ideal for use on round edges, contours & curves without breaking through the paint surface. Easy gripping
- Washable
- Easy to use & economical
- Easy to handle, protected against dust



## H425

HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Strong E-weight paper
- Silicon carbide abrasive

### BENEFITS

- Ideal for floor sanding
- Good tear resistance
- High cut rate



## R817 NORZON®

NORZON

HARD  
WOOD  
& SOFT  
WOOD

## FEATURES

- Heavy polyester cloth
- 100% NorZon® abrasive
- Open grain distribution

## BENEFITS

- High tear resistance
- Long lasting cutting edges of NorZon® brings long life in floor sanding applications
- Reduces clogging



## R309

FERR.  
& NON  
FERR.HARD  
WOOD

## FEATURES

- Super flexible cotton cloth
- Premium aluminium oxide abrasive
- Semi-open grain distribution

## BENEFITS

- Ideal for contour & profile sanding
- Long life in wood & metal applications
- For reduced clogging in wood applications



## HANDY ROLLS R222

FERR.  
& NON  
FERR.HARD  
WOOD  
& SOFT  
WOOD

## FEATURES

- J-weight cloth backing
- Aluminium oxide abrasive
- Dispenser unit

## BENEFITS

- Ideal for sanding profiled surfaces & round steel parts
- Can be torn into strips
- For general purpose maintenance applications
- Ideal for deburring & derusting metal
- For easy storage
- Protects product
- Eliminates waste



## R222

FERR.  
& NON  
FERR.PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD

## FEATURES

- J-weight cotton cloth
- Aluminium oxide abrasive

## BENEFITS

- Flexible product
- General purpose product for hand sanding of wood & metal



BETTER

BETTER

## Q222

FERR.  
& NON  
FERR.



HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Non woven backing
- Aluminium oxide abrasive

### BENEFITS

- Flexible & tear resistant
- Ideal for manual sanding



## S413

HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Very strong combination backing
- Sharp silicon carbide abrasive
- Very open grain distribution

### BENEFITS

- High tear resistance
- Very high cutting action for rough floor sanding applications
- Long life
- Aggressive cut & clog resistant



## S422

HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Very strong combination backing
- Sharp silicon carbide abrasive

### BENEFITS

- High tear resistance
- Very high cutting action on hard wood



## HANDY ROLLS R212

FERR.  
& NON  
FERR.



### FEATURES

- J-weight cloth backing
- Aluminium oxide abrasive
- Dispenser unit

### BENEFITS

- Flexible product
- For general purpose maintenance applications
- For easy storage
- Protects product
- Eliminates waste



## G131

PAINT/  
VARN.  
HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- E-weight backing
- Aluminium oxide abrasive

### BENEFITS

- Economy product for sanding wood, paint & plaster
- Good performance



## R230

FERR.



HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Strong cloth backing
- High performance aluminium oxide abrasive
- Open grain distribution

### BENEFITS

- Multi-purpose product ideal for floor sanding, grinding metal & sanding wood
- High cutting rate
- Reduced clogging



GOOD

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**PAPER ROLLS**

			<b>NORTON PRO</b>			
DIM WxL	GRIT	PK QTY	BEST	BETTER		GOOD
			H231	A275	H425	G131
70mmx25M	40	2				69957391049
	60	2				69957391054
	80	2				69957391059
70mmx50M	120	2		69957380784		
	150	2		69957380785		
	180	2		69957380788		
	220	2		69957380790		
	240	2		69957380792		
	280	2		69957380794		
	320	2		69957380795		
93mmx50M	40	2				66261020827
	60	2				66261020828
	80	2				66261020829
	100	2				66261020830
	120	2				66261020831
	150	2				66261020860
100mmx50M	40	2				66261020775
	60	2				66261020817
	80	2				66261020818
	100	2				66261020819
	120	2		63642591123		66261020820
	150	2		69957391073		66261020857
	180	2		63642591124		
	220	2		63642590924		
	240	2		63642590927		
	280	2		63642591648		
	320	2		63642591649		
400	2		69957391077			
115mmx25M	40	2				69957391083
	60	2				69957391087
	80	2				69957391093
115mmx50M	40	2				66261020832
	60	2				63642528366
	80	2				66261020766
	100	2				66261020833
	120	2		69957380761		66261020825
	150	2		69957380765		63642528375
	180	2		69957380767		66261020861
	220	2		69957380769		66261020849
	240	2		69957380777		
	280	2		69957380778		
	320	2		69957380779		
400	2		69957380781			

## PAPER ROLLS (CONTINUED)

			NORTON PRO			
DIM WxL	GRIT	PK QTY	BEST	BETTER		GOOD
			H231	A275	H425	G131
120mmx50M	40	2				66261020822
	50	2				66261020826
	60	2	63642539189			66261020823
	80	2	63642539187			66261020834
	100	2	63642539185			66261020821
	120	2	63642539183			66261020824
	150	2	63642539181			66261020859
	180	2	63642546049			66261020865
150mmx50M	60	1	63642546050			
	80	1	69957361785			
	100	1	63642546054			
	120	1	69957361838			
	150	1	63642546058			
200mmx50M	36	1			63642557681	
	40	1			69957361909	
	50	1			69957352812	
	60	1	63642524137		63642527466	
	80	1	69957349019		63642557682	
	100	1	69957383109		63642557683	
	120	1	63642531933		63642552702	
254mmx50M	36	1			63642539191	
	40	1			63642559644	
	50	1			63642539194	
	60	1	63642548181		63642534759	
	80	1	63642548182		63642539198	
	100	1	63642551354		63642539200	
	120	1	63642551287		63642539203	
	150	1	63642548226			

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**NORGRIP® ROLLS**



			<b>NORTON PRO</b>
			<b>BETTER</b>
<b>DIM WxL</b>	<b>GRIT</b>	<b>PK QTY</b>	<b>A275</b>
75mmx25M	120	2	69957391149
	150	2	69957391151
	180	2	69957391152
	220	2	69957391153
	240	2	69957391155
	280	2	69957391156
	320	2	69957391157
	400	2	69957391159
115mmx25M	120	2	69957391218
	150	2	69957391219
	180	2	69957391220
	220	2	69957391221
	240	2	69957391222
	280	2	69957391223
	320	2	69957391224
	400	2	69957391225

## CLOTH ROLLS

			NORZON				
DIM WxL	GRIT	PK QTY	BETTER				GOOD
			R817	R309	R222	Q222	R230
50mmx50M	40	5			63642512909		
	60	5			63642540086		
	80	5			63642539135		
	100	5			63642539136		
	120	5			63642559727		
	150	5			63642539208		
	180	5			63642539137		
	220	5			63642512916		
	240	5			63642512917		
	320	5			63642512918		
100mmx50M	36	1			63642536826		
	40	1			63642536559		
	50	1			63642540090		
	60	1		69957385334	63642560979		
	80	1		63642555261	63642531852	63642546066	
	100	1		69957385335	63642531854	63642546067	
	120	1		69957385336	63642531855	63642546068	
	150	1		69957384617	63642545861	63642546069	
	180	1		69957385337	63642531856		
	240	1			63642531857		
118mmx50M	320	1			63642545865		
	400	1			63642545867		
	60	1				63642536712	
	80	1				63642536713	
	100	1				63642546337	
	120	1				63642546338	
	150	1				63642546339	
120mmx50M	180	1				63642539178	
	220	1				63642539207	
	60	1		69957385339			
	80	1		63642555659			
	100	1		69957385340			
	120	1		63642555601			
120mmx50M	150	1		69957385341			
	180	1		69957388153			

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**CLOTH ROLLS (CONTINUED)**




			<i>NORTON</i>				
DIM WxL	GRIT	PK QTY	BETTER				GOOD
			R817	R309	R222	Q222	R230
200mmx50M	24	1	636425 <b>47001</b>				636425 <b>70720</b>
	36	1	636425 <b>58103</b>				636425 <b>53144</b>
	40	1	699573 <b>97909</b>				636425 <b>39742</b>
	50	1	636425 <b>14307</b>				636425 <b>39743</b>
	60	1	636425 <b>47002</b>				699573 <b>78387</b>
	80	1	636425 <b>09321</b>				636425 <b>16233</b>
	100	1	636425 <b>14310</b>				636425 <b>39744</b>
254mmx50M	24	1	636425 <b>14311</b>				636425 <b>70897</b>
	36	1	636425 <b>14312</b>				636425 <b>70772</b>
	40	1	636425 <b>14313</b>				636425 <b>70004</b>
	50	1	636425 <b>14314</b>				636425 <b>64506</b>
	60	1	636425 <b>14315</b>				636425 <b>64507</b>
	80	1	699573 <b>63146</b>				636425 <b>64508</b>
	100	1	699573 <b>96296</b>				636425 <b>07353</b>
430mmx50M	50	1			636425 <b>39141</b>		
	60	1			636425 <b>39142</b>		
	80	1			636425 <b>39143</b>		
	100	1			636425 <b>39144</b>		
	120	1			636425 <b>39145</b>		
	150	1			636425 <b>39146</b>		
	180	1			636425 <b>39147</b>		
	240	1			636425 <b>39148</b>		

**SPEC CHECK**

- R222 handy rolls are designed for manual applications. The high flexibility of the cloth in combination with the wide grit range, from coarse to fine, provides an excellent tool for a variety of applications including deburring, rust removal & finishing metal
- Handy rolls are packaged in a protective, convenient dispenser which eliminates costly waste & permits neat, easy storage



## HANDY ROLLS

DIM WxL	GRIT	PK QTY	BETTER	GOOD
			R222	R212
25mmx25M 	40	1	63642531849	
	50	1	63642531850	
	60	1	63642531823	69957351243
	80	1	63642531820	69957351244
	100	1	63642531815	69957351246
	120	1	63642531811	69957351247
	150	1	63642531808	69957351248
	180	1	63642531805	69957351249
	220	1	63642531802	69957351250
	240	1	63642531799	69957351251
	280	1	63642540084	
	320	1	63642531796	69957351252
	400	1	63642531793	69957351253
	600	1	63642560206	
38mmx25M 	36	1	63642536432	
	40	1	63642531828	
	50	1	63642531826	
	60	1	63642531824	69957350654
	80	1	63642531821	69957350657
	100	1	63642531817	69957350658
	120	1	63642531812	69957350659
	150	1	63642531809	69957350660
	180	1	63642531806	69957350661
	220	1	63642531803	69957350662
	240	1	63642531800	69957350663
	280	1	63642536425	
	320	1	63642531797	69957350664
	400	1	63642531794	69957350665
600	1	63642539150		
50mmx25M 	36	1	63642536433	
	40	1	63642531829	
	50	1	63642531827	
	60	1	63642531825	69957351254
	80	1	63642534758	69957351255
	100	1	63642531818	69957351256
	120	1	63642531814	69957351259
	150	1	63642531810	69957351260
	180	1	63642531807	69957351265
	220	1	63642531804	69957351266
	240	1	63642531801	69957351267
	280	1	63642536426	
	320	1	63642531798	69957351270
	400	1	63642531795	69957351272
600	1	63642534757		

Dimensions Key: DIM = Dimensions, W = Width, L = Length

# PRODUCT SELECTION

APPLICATION	GRIT	COLOUR
<b>ROTOLO® FOAM ROLLS</b>		
Sanding of body filler	120	Apple Green
	150	Orange
	180	Purple
Sanding of finishing filler	220	Red
	240	Electric Blue
Sanding cataphoretic coats & primer	280	Grey
	320	Salmon
Sanding polyurethane primer	360	Pink
	400	Yellow
	500	Dark Blue
	600	Fuchsia
Cutting back lacquer before a flush joint	800	Turquoise
Retouching clear coat	1000	White
Before polishing & buffing	1500	Green

## ROTOLO® FOAM ROLLS

				<b>NORTON PRO</b>
DIM WxL	GRIT	PK QTY	COLOUR	BETTER
				A275
115mmx25M 	120	2	Apple Green	636425 <b>35316</b>
	150	2	Orange	636425 <b>57584</b>
	180	2	Purple	636425 <b>57599</b>
	220	2	Red	636425 <b>57600</b>
	240	2	Electric Blue	636425 <b>57602</b>
	280	2	Grey	636425 <b>57604</b>
	320	2	Salmon	636425 <b>57606</b>
	360	2	Pink	636425 <b>57607</b>
	400	2	Yellow	636425 <b>57608</b>
	500	2	Dark Blue	636425 <b>57611</b>
	600	2	Fuchsia	636425 <b>57612</b>
	800	2	Turquoise	636425 <b>57613</b>
	1000	2	White	636425 <b>57616</b>
	1500	2	Green	636425 <b>57617</b>

## COMBINATION ROLLS

DIM WxL	GRIT	PK QTY	BETTER	
			S413	S422
203mmx50M	16	1	63642512552	
	20	1	69957352814	
	24	1	63642512551	63642539280
	30	1	63642539278	63642539283
	36	1	63642513423	63642539286
	40	1		63642539289
	50	1		63642539292
	60	1		63642539295
	80	1		63642539298
	100	1		63642539300
254mmx50M	20	1	63642546061	
	24	1	63642546062	63642551621
	30	1	63642546064	63642552435
	36	1	63642513425	63642552436
	40	1		63642552603
	60	1		63642545975
	80	1		69957391160
	100	1		63642547622
	120	1		69957391161

## FILM ROLLS

DIM WxL	GRIT (micron)	PK QTY	BEST
			Q132
100mmx50M	60	1	69957397708
	40	1	69957397701
	30	1	69957397711
	15	1	69957397693

All film rolls have a 76mm cross-slotted core

## SPEC CHECK

- Rotolo® Foam pre-cut sheets, conveniently packaged in a roll form, are ideal for fine sanding on round edges, contours & curves, providing an outstanding finish on primers & top coats. The secret of Rotolo® Foam lies in the combination of Norton Pro A275 sanding paper & the special foam backing
- To ease product recognition, box labels are colour-coded to a specific grit size. The colour-coding follows the Norton Pro grit colour-coding system



Dimensions Key: DIM = Dimensions, W = Width, L = Length



# FILE BELTS

Norton offers a range of file belts designed to perform on intricate shapes and contours.

## APPLICATIONS & MARKETS

- Light deburring & blending
- Spot repairs
- General clean-up & finishing



INNOVATION  
BEST

### R929 SG®

**SG**

FERR.  
& NON  
FERR.



#### FEATURES

- X-weight polyester cloth
- Premium SG® abrasive
- High content of active filler

#### BENEFITS

- Extremely durable even on aggressive applications
- Excellent at low & medium pressure
- Cool cut
- Ideal for heat sensitive metals



### R822 NORZON®

**NORZON**

FERR.  
& NON  
FERR.



#### FEATURES

- X-weight cotton cloth
- NorZon® abrasive

#### BENEFITS

- Durable
- Aggressive & consistent cut
- Long life
- Ideal for stainless steel



**GOOD**

### R230

FERR.  
& NON  
FERR.



HARD  
WOOD  
& SOFT  
WOOD



#### FEATURES

- X-weight cotton cloth
- Aluminium oxide abrasive
- Open grain distribution

#### BENEFITS

- Multi-purpose product for metal & wood
- Good cutting rate
- Reduced clogging



### R427

NON  
FERR.



GLASS



STONE



#### FEATURES

- X-weight cotton cloth
- Silicon carbide abrasive

#### BENEFITS

- For dry grinding of glass & stone



FILE BELTS			<i>SG</i>	<i>NORZON</i>		
DIM WxL(mm)	GRIT	PK QTY	INNOVATION	BETTER	GOOD	
			BEST		R230	R427
			R929	R822		
10x330	40	50		63642548975		
	60	50		63642523079		
	80	50		69957336537		
	120	50		63642546799		
13x454	40	50			63642539671	
	60	50			63642539672	
	80	50			63642553323	
	120	50			63642553324	
13x457	40	50	69957350639	69957353159		
	60	50	69957350640	63642539824		
	80	50	69957350642	63642539833		
	120	50	69957350643	63642539840		
13x610	60	50	69957350646	63642539830		
	80	50	69957350647	63642539838		
	120	50	69957350648	63642539845		
15x330	40	50		63642552139		
	60	50		63642512882		
	80	50		63642552140		
	120	50		63642508195		
20x480	40	50	69957350650	63642508505		
	60	50	69957350651	63642552708		
	80	50	69957350652	63642539683		
	120	50	69957350653	63642552710		
20x520	60	50		63642551962		
	80	50		63642539684		
	120	50		63642547831		
30x533	60	20		63642538963		63642538954
	80	20		63642538964		
	120	20		63642514027		63642538955
	180	20				63642538957

Dimensions Key: DIM = Dimensions, W = Width, L = Length



Norton offers portable belts in a variety of sizes, designed to fit the most common types of machine. Portable belts are designed for all metal and wood working applications.

All Norton belts are supplied with butt joints for easy mounting and smoother work.

**APPLICATIONS & MARKETS**

- Surface grinding & finishing of all metals
- Blending welds
- Sanding & finishing wood
- Floor sanding



**R82A**

FERR. & NON FERR.



**FEATURES**

- X-weight cotton cloth
- A blend of aluminium oxide & NorZon® abrasives
- Open grain distribution

**BENEFITS**

- For dry applications only
- For visibly improved performance
- Reduced clogging



**W445**

GLASS



**FEATURES**

- Polyester cloth
- Cork grain

**BENEFITS**

- To be used wet or dry
- Ideal for final finishing of glass edges



**BETTER**

**GOOD**

### R427

NON FERR.



STONE



GLASS



#### FEATURES

- X-weight cotton cloth
- Silicon carbide abrasive

#### BENEFITS

- Can be used for dry applications only
- Ideal for grinding glass & stone



### R230

NON FERR.



HARD WOOD & SOFT WOOD



#### FEATURES

- Strong cloth backing
- Aluminium oxide abrasive
- Open grain distribution

#### BENEFITS

- Multi-purpose product ideal for sanding wood & grinding metal
- Good cutting rate
- Reduced clogging on loading material such as wood & aluminium



## PORTABLE BELTS

DIM WxL(mm)	GRIT	PK QTY	BETTER		GOOD	
			R82A	W445	R427	R230
75x457	40	20				63642538877
	60	20				63642539426
	80	20				63642539422
	120	20				63642539415
75x533	40	20				63642546289
	50	20				63642546278
	60	20				63642546257
	80	20				63642534248
	100	20				63642546273
	120	20				63642530701
75x604	60	20			63642539437	
	120	20			63642539434	
	180	20			63642545905	
	320	20			63642539433	
	CORK	20		63642539439		

**Dimensions Key:** DIM = Dimensions, W = Width, L = Length

**PORTABLE BELTS (CONTINUED)**

DIM WxL(mm)	GRIT	PK QTY	BETTER		GOOD	
			R82A	W445	R427	R230
75x610	40	20				63642546472
	50	20				63642553063
	60	20				63642546473
	80	20				63642567329
	100	20				63642545869
	120	20				63642546476
100x552	40	20				63642546291
	60	20				63642546260
	80	20				63642546249
	120	20				63642546234
100x560	40	20				63642546292
	50	20				63642546281
	60	20				63642546262
	80	20				63642546250
	100	20				63642549847
	120	20				63642546235
100x610	36	20				63642529801
	40	20	69957350514			63642546295
	50	20				63642546283
	60	20	69957350515			63642560145
	80	20	69957350516			63642529798
	100	20				63642546242
	120	20	69957350517			63642529797
100x620	40	20				63642546457
	50	20				63642546285
	60	20				63642534465
	80	20				63642529799
	100	20				63642534770
	120	20				63642546452
100x915	60	20				63642545873
	80	20				63642545875
	120	20				63642534768
110x620	40	20				63642530702
	60	20				63642530700
	80	20				63642530699
	120	20				63642546238

Dimensions Key: DIM = Dimensions, W = Width, L = Length



# NARROW BELTS

A wide selection of sizes and grits for most dimensioning, intermediate grinding and polishing applications.

## APPLICATIONS & MARKETS

- Grinding & deburring
- Heavy stock removal
- Blending, dimensioning & shaping
- Finishing
- Polishing



INNOVATION  
BEST

### U366 NORaX®

FERR.  
& NON  
FERR.



GLASS



**NORaX**  
EXPERIMENTAL GRINDING

#### FEATURES

- Polyester cloth
- Special multi-layer abrasive product
- Aluminium oxide abrasive

#### BENEFITS

- Generates a high quality finish
- Can be used wet
- Very long life & good cutting rate
- Increases productivity
- Grit X5 is ideal for final finishing of glass edges



### U242 NORaX®

FERR.  
& NON  
FERR.



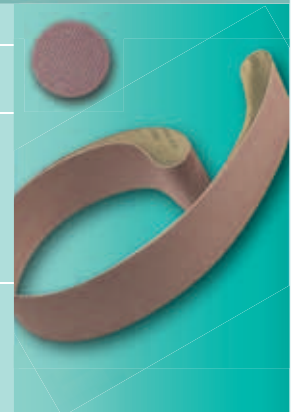
**NORaX**  
EXPERIMENTAL GRINDING

#### FEATURES

- Flexible cotton backing
- Special multi-layer abrasive products
- Aluminium oxide abrasive

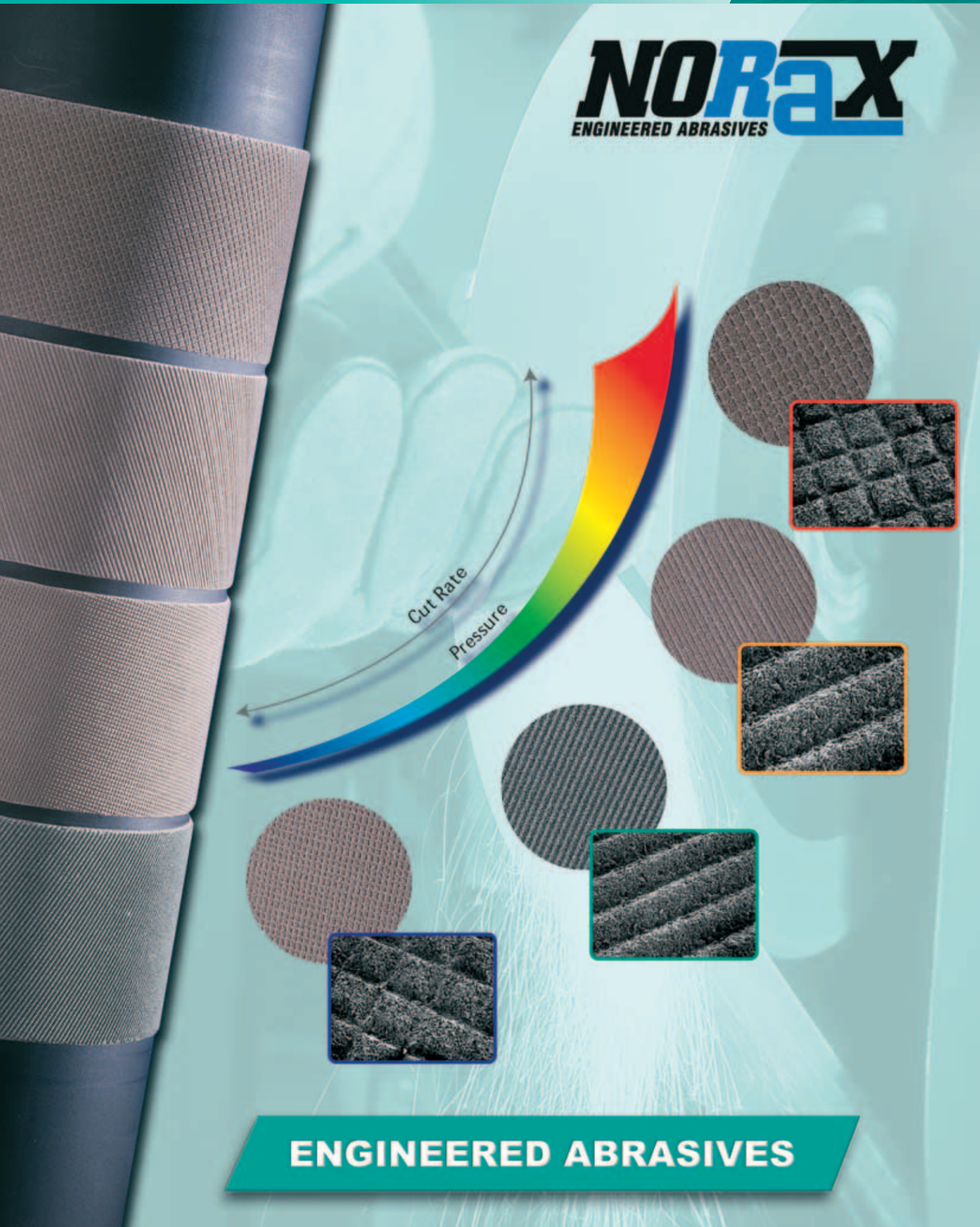
#### BENEFITS

- Ideal for finishing operations when used with soft contact wheels
- Very long life & good cutting rate with reduced heat generation
- Increases productivity
- Multiple operations can be completed in one step, shortening application time
- Generates a high quality finish



# NORaX

ENGINEERED ABRASIVES



**ENGINEERED ABRASIVES**

INNOVATION  
BEST

## R929 SG®

SG

FERR.  
& NON  
FERR.



### FEATURES

- Polyester cloth
- Premium SG® abrasive
- High content of active filler

### BENEFITS

- Stiff backing for demanding operations
- Excellent cut rate at low & medium pressure
- Cooler cut



## R955 RED HEAT

NORTON SG  
REDHEAT

HARD  
WOOD



### FEATURES

- Very strong polyester backing
- SG® ceramic abrasive
- High quality product

### BENEFITS

- Extra long life & tear resistant
- Time saving
- Unmatched cut rate with optimum resistance to wear, ideal for professional floor sanding
- Best for use on hard wood & large jobs
- Less belt changes



## R984 SG®

SG

FERR.



### FEATURES

- Heavy polyester backing
- SG® abrasive
- Requires hard contact wheel

### BENEFITS

- Long life at medium to high pressure operations
- Very stiff backing for high pressure work on high powered machines
- Gives long life & high cut rate



**BEST**

## H231

FERR.  
& NON  
FERR.



HARD  
WOOD  
& SOFT  
WOOD



### FEATURES

- Very strong, F-weight paper
- High performance aluminium oxide abrasive
- Semi-open/open grain distribution
- Anti-static properties

### BENEFITS

- High performance & easy to mount
- Ideal for roughing, intermediate sanding & finishing
- Finer grits are ideal for polishing metal & plastic
- Resists clogging
- Excellent surface quality
- Less dust generated for an improved working environment



**BETTER**

## R817 NORZON®

FERR.  
& NON  
FERR.



HARD  
WOOD



SHOE



**NORZON**

### FEATURES

- Heavy polyester cloth
- 100% NorZon® abrasive
- Open grain distribution

### BENEFITS

- Stiff tear resistant backing
- Long lasting cutting edges of NorZon® brings long life even at high pressure
- Recommended for grinding soft materials like aluminium, plastic, rubber or leather
- Very good performance on hard wood



## W445

GLASS



### FEATURES

- Polyester cloth
- Cork grain

### BENEFITS

- Tear resistant
- Better performance when used wet
- For final finishing of glass edges



BETTER

## R847 NORZON®

FERR. & NON FERR.



NORZON

### FEATURES

- Heavy polyester cloth
- NorZon® abrasive

### BENEFITS

- Strong backing for high pressure work, especially in coarse grits
- For better performance use a hard contact wheel
- Long lasting cutting edges of NorZon® brings long life even at high pressure
- Very good metal removal on all steels including stainless steels



## R822 NORZON®

FERR. & NON FERR.



NORZON

### FEATURES

- X-weight cotton cloth
- NorZon® abrasive

### BENEFITS

- Stiff backing for backstand grinding
- Long lasting



## R309

FERR. & NON FERR.



HARD WOOD & SOFT WOOD



NORZON

### FEATURES

- Very flexible stretch resistant cotton cloth
- Premium aluminium oxide abrasive
- Semi-open grain distribution

### BENEFITS

- Gives maximum durability
- Ideal for contour sanding on wood
- For use with a soft contact wheel
- For finishing metal parts when high flexibility is required
- Reduced clogging



NORTON SG  
**REDHEAT**

GOOD

### R445

FERR.  
& NON  
FERR.



GLASS



#### FEATURES

- Heavy to medium weight polyester cloth
- Silicon carbide abrasive

#### BENEFITS

- Standard cloth for wet applications
- For use on glass, titanium or cast iron
- Ideal for use on stainless steel, especially for finer final finishing



### R230

NON  
FERR.



HARD  
WOOD  
& SOFT  
WOOD



#### FEATURES

- Strong cloth backing
- Aluminium oxide abrasive
- Open grain distribution

#### BENEFITS

- Multi-purpose Economy product ideal for sanding wooden floors & grinding metal
- Good cutting rate
- Reduced clogging



### R293

FERR.  
& NON  
FERR.



HARD  
WOOD  
& SOFT  
WOOD



#### FEATURES

- Heavy polyester cloth
- Premium aluminium oxide
- Contains a small amount of SG® abrasive
- Active filler

#### BENEFITS

- Good performance
- Improved grain adhesion
- For use on metal & wood edgings
- For extended product life
- Improved life on metal applications



### R265

FERR.  
& NON  
FERR.



#### FEATURES

- Heavy cotton cloth
- Premium aluminium oxide abrasive

#### BENEFITS

- For semi-finishing operations
- Standard general purpose cloth for metal application





The new SG generation

**R980 belts are made-to-order**

Please contact your local Sales or Customer Service Representative for more information

**CLOTH BELTS FOR SHOE REPAIR**

			<i>NORZON</i>
DIM WxL(mm)	GRIT	PK QTY	BETTER
			R817
40x1480	24	10	636425 <b>30673</b>
40x1500	24	10	636425 <b>39381</b>
	80	10	636425 <b>30691</b>
40x1650	24	10	636425 <b>36454</b>
	60	10	636425 <b>30675</b>
	80	10	636425 <b>30677</b>
	100	10	636425 <b>30676</b>
	120	10	636425 <b>31859</b>
100x1480	24	10	636425 <b>19730</b>
100x1650	24	10	636425 <b>28483</b>

**CLOTH BELTS FOR GLASS**

			<i>NORAX</i>		
DIM WxL(mm)	GRIT	PK QTY	INNOVATION	BETTER	GOOD
			BEST		
			U366	W445	R445
100x3350	60	10			636425 <b>46593</b>
	80	10			636425 <b>46594</b>
	100	10			636425 <b>30703</b>
	120	10			636425 <b>46597</b>
	150	10			636425 <b>46599</b>
	180	10			636425 <b>46600</b>
	220	10			636425 <b>46602</b>
	240	10			636425 <b>46603</b>
	320	10			636425 <b>46605</b>
	400	10			636425 <b>46616</b>
	CORK	10			636425 <b>46035</b>
	X5	10		636425 <b>18504</b>	

**Dimensions Key:** DIM = Dimensions, W = Width, L = Length

## CLOTH BELTS FOR FLOOR SANDING

			<i>REDHEAT</i>	<i>NORZON</i>	
DIM WxL(mm)	GRIT	PK QTY	INNOVATION	BETTER	GOOD
			BEST		
			R955	R817	R230
200x750	24	5	69957345034		
	24	10		69957350608	63642521182
	36	5	69957345033		
	36	10		63642515116	69957349006
	40	5	69957345032		
	40	10		63642545940	69957349007
	50	5	69957345031		
	50	10		63642539652	69957353999
	60	5	69957345030		
	60	10		63642545918	69957349010
	80	5	69957345029		
	80	10		63642552057	69957349014
	100	5	69957345028		
	100	10		69957356000	69957349394
120	10			63642558814	

**NORaX**  
ENGINEERED ABRASIVES

NORaX® is the innovative coated abrasive technology from Norton. The innovation lies in the abrasive layer: a multi layer coating of abrasive is engineered into a 3D pattern.

These patterns give a controlled contact surface between the abrasive and the part optimising the belt performance.

**For more information about NORaX® belts and to discuss made-to-order solutions please contact your local Sales or Customer Service Representative**

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**CLOTH BELTS FOR METAL**

			<b>SG</b>	<b>NORAX</b>	<b>SG</b>	<b>NORZON</b>	<b>NORZON</b>		
DIM WxL(mm)	GRIT	PK QTY	<b>INNOVATION</b>		<b>BEST</b>	<b>BETTER</b>			<b>GOOD</b>
			<b>BEST</b>						
			R929	U242	R984	R822	R847	R309	R293 & R265
50x2000	24	10							63642548478
	36	10	69957350787			63642546222			63642546943
	40	10	69957350790			63642547270			63642551489
	50	10	69957350792			63642546218			63642551490
	60	10	69957350793			63642546210			63642546878
	80	10	69957350794			63642546212			
	120	10	69957350795			63642516010			
	180	10							63642539459*
	240	10							63642539460*
	X65	10		69957350546					
	X45	10		69957350545					
	X30	10		69957350544					
50x2500	40	10							63642540013
	50	10							63642540014
	60	10							63642540015
	80	10							63642547985
50x4000	X65	10		69957350534					
	X45	10		69957350533					
	X30	10		69957350532					
	180	10						69957384495	
	240	10						69957350781	
	320	10						69957384496	
	400	10						69957389829	
75x2000	36	10	69957350796		63642539813	63642539386	63642539811		63642547942
	40	10	69957350797			63642539388			63642564728
	50	10	69957350798		63642539814	63642538998	63642551710		63642548110
	60	10	69957350799			63642539389	63642552549		63642548528
	80	10	69957350800			63642538999			63642548275
	120	10	69957350801			63642539002			
	X65	10		69957350543					
	X45	10		69957350542					
	X30	10		69957350536					
	180	10							63642545883*
	240	10							63642520882*
75x2500	36	10	69957350882		63642529802	63642546092			63642546130
	40	10	69957350883			63642546094			63642546874
	50	10	69957350884		63642520891	63642546095			63642551506
	60	10	69957350888			63642546097			63642551507
	80	10	69957350898			63642546099			63642548275
	120	10				63642539026			

\*R265 product

## CLOTH BELTS FOR METAL (CONTINUED)

			<b>SG</b>	<b>NORAX</b>	<b>SG</b>	<b>NORZON</b>			
DIM WxL(mm)	GRIT	PK QTY	<b>INNOVATION</b>		<b>BEST</b>	<b>BETTER</b>			<b>GOOD</b>
			<b>BEST</b>						
			R929	U242	R984	R822	R847	R309	R293
75x3000	36	10				63642546224			63642551509
	50	10				63642546220			
	60	10							63642546202
	80	10				63642539320			
100x920	36	10							63642551335
	40	10							63642548306
	50	10							63642551533
	60	10				63642546216			63642548307
	80	10				63642546214			63642551544
	100	10				63642539383			63642551546
	120	10							63642551547
	150	10							63642551548
100x1000	40	10	69957350903			63642547284			63642521817
	50	10	69957350904			63642538971			
	60	10	69957350905			63642538973			63642551375
	80	10	69957350906			63642538975			
	100	10				63642538977			
	120	10	69957350907			63642536388			
100x2000	36	10	69957350802						
	40	10	69957350804						
	60	10	69957350805						
	80	10	69957350806						
	120	10	69957350807						
100x3000	36	10				63642547294			63642548109
	40	10							63642551511
	60	10				63642539038			63642548447
150x2000	36	10	69957350809			63642539008			
	40	10	69957350812			63642539010			
	60	10	69957350813			63642539014			
	80	10	69957350815			63642539016			

Dimensions Key: DIM = Dimensions, W = Width, L = Length

**PAPER BELTS FOR WOOD**

DIM WxL(mm)	GRIT	PK QTY	BEST
			H231
120x7000	60	10	63642539496
	80	10	63642539497
	100	10	63642539498
	120	10	63642539499
120x7100	60	10	63642539500
	80	10	63642539501
	100	10	63642539502
	120	10	63642539503
120x7200	60	10	63642539543
	80	10	63642539544
	100	10	63642539545
	120	10	63642539546
120x8000	60	10	63642539568
	80	10	63642539567
	100	10	63642539566
	120	10	63642539565
150x7000	60	10	63642539504
	80	10	63642539548
	100	10	63642539549
	120	10	63642539550
150x7100	60	10	63642546316
	80	10	63642539551
	100	10	63642539552
	120	10	63642539553
150x7200	60	10	63642539505
	80	10	63642539554
	100	10	63642539555
	120	10	63642539556



# WIDE BELTS

Available in a range of sizes, suitable for finishing wood and metal.

## APPLICATIONS & MARKETS

### Metal Working

- Plate dimensioning
- Slag grinding
- Machining & deburring

### Wood Working

- Intermediate sanding
- Planing & dimensioning



## H231

HARD  
WOOD  
& SOFT  
WOOD



FERR.  
& NON  
FERR.



BEST

### FEATURES

- Very strong, F-weight paper
- High performance aluminium oxide abrasive
- Semi-open/open grain distribution
- Anti-static properties

### BENEFITS

- High performance & easy mounting
- Ideal for roughing, intermediate sanding & finishing of solid wood
- Ideal for furniture applications
- Finer grits ideal for polishing metal, plastics leather & smoothing fillers
- Resists clogging
- Excellent surface quality
- Less dust generated for an improved working environment



## WIDE BELTS

DIM WxL(mm)	GRIT	PK QTY	BEST
			H231
930x1525	60	10	69957337156
	80	10	69957337157
	100	10	69957337158
	120	10	69957337159
	150	10	69957337160
	180	10	69957337161
930x1900	60	10	69957337166
	80	10	69957337167
	100	10	69957337168
	120	10	69957337169
	150	10	69957337170
	180	10	69957337172
1120x1900	60	10	69957372835
	80	10	69957337515
	100	10	69957337516
	120	10	69957337517
	150	10	69957337518
	180	10	69957337519
1120x2150	60	10	63642568246
	80	10	69957337538
	100	10	69957337539
	120	10	69957337540
	150	10	69957337541
	180	10	69957337542
1350x2620	60	10	69957337795
	80	10	69957337796
	100	10	69957337797
	120	10	69957337798
	150	10	69957337799
	180	10	69957337800

**Dimensions Key:** DIM = Dimensions, W = Width, L = Length

# FLAP WHEELS

Designed to deliver a consistent finish with a uniform rate of cut, flap wheels have a continual rate of wear which exposes new abrasive. Their construction also makes them ideal for sanding contours and uneven surfaces.

## APPLICATIONS & MARKETS

- Metal fabrication
- Blending welds
- Deburring
- Cleaning & finishing



BETTER	<b>R822 NORZON®</b>		<i><b>NORZON</b></i>
	FERR. & NON FERR.		
	<b>FEATURES</b>	<b>BENEFITS</b>	
<ul style="list-style-type: none"> <li>■ NorZon® abrasive</li> <li>■ Heavy cotton cloth</li> </ul>	<ul style="list-style-type: none"> <li>■ Long lasting cutting edges of NorZon®</li> </ul>		

GOOD	<b>R207</b>		
	FERR. & NON FERR.		
	<b>FEATURES</b>	<b>BENEFITS</b>	
<ul style="list-style-type: none"> <li>■ Aluminium oxide abrasive</li> <li>■ Highly resistant backing</li> </ul>	<ul style="list-style-type: none"> <li>■ Unique manufacture technique provides low dust generation</li> <li>■ Consistent cut rate with ability to leave a very good finish</li> <li>■ Good life &amp; cut rate in comparison to competition</li> </ul>		

## FLANGE MOUNTED MAXIMUM OPERATING SPEED

DIA(mm)	MAX RPM
100	8000
150	5800
165	5500
200	4500
250	3500
300	2800
350	2500
400	2200

## FLANGE MOUNTED

DIM DIAxWxB (mm)	GRIT	PK QTY	GOOD
			R207
100x25x25	40	1	63642547168
150x25x25	50	2	63642546718
	60	2	63642563719
	80	2	63642546728
	100	2	63642546734
	120	2	63642546740
	150	2	63642546746
	180	2	63642546749
150x50x25	40	1	63642546719
	50	1	63642546717
	60	1	63642546712
	80	1	63642546729
	100	1	63642546735
	120	1	63642546741
	150	1	63642546747
165x25x32	40	2	63642547170
	60	2	63642546711
	80	2	63642546730
	100	2	63642546736
	120	2	63642546742
	150	2	63642522957
	180	2	63642519738
165x50x32	50	1	63642546716
	60	1	63642561961
	80	1	63642546731
	120	1	63642546743
	150	1	63642545893
	180	1	63642546751
	320	1	63642545894

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, W = Width, B = Bore

## FLANGE MOUNTED (CONTINUED)

DIM DIAxWxB (mm)	GRIT	PK QTY	GOOD
			R207
200x25x35	60	2	63642547173
	80	2	63642547175
	100	2	63642547174
	120	2	63642547176
200x50x35	50	1	63642546715
	80	1	63642546732
	100	1	63642546738
	120	1	63642546744
	150	1	63642546748
	240	1	63642546720
250x50x35	50	1	63642546714
	80	1	63642546733
	100	1	63642546739
	120	1	63642546745
	150	1	63642546753
	240	1	63642539771

## SPINDLE MOUNTED RECOMMENDED OPERATING SPEED

DIM DIAxWxS(mm)	RECOMMENDED MINIMUM RPM	RECOMMENDED OPTIMUM RPM	RECOMMENDED MAXIMUM RPM
30x15x6	12000	16500	25500
30x20x6	12000	16500	25500
40x20x6	9600	12500	19100
50x20x6	7000	10000	15300
50x30x6	7000	10000	15300
60x15x6	6300	8300	12700
60x30x6	6300	8300	12700
60x40x6	6300	8300	12700
80x50x6	4800	6200	9600



**SPINDLE MOUNTED**

			<i>NORTON</i>	
DIM DIAxWxS (mm)	GRIT	PK QTY	BETTER	GOOD
			R822	R207
22x10x3	80	10		63642539934
	120	10		63642539935
	150	10		63642533081
30x10x6	60	10		63642545207
	80	10		63642537371
	100	10		63642513147
	120	10		63642552728
	150	10		63642512892
	240	10		63642545208
30x15x6	60	10		63642513148
	80	10		63642561466
	100	10		63642547339
	120	10		63642551593
	150	10		63642547340
	240	10		63642547341
	320	10		63642513149
40x15x6	40	10		63642539937
	60	10		63642533099
	80	10		63642533098
	100	10		63642533095
	120	10		63642533094
	150	10		63642533092
	240	10		69957360895
40x20x6	40	10		63642539938
	60	10		63642546771
	80	10		63642546768
	120	10		63642546760
	150	10		63642533091
	240	10		63642539939
	320	10		63642539940
50x20x6	40	10		63642546774
	60	10		63642531870
	80	10		63642533097
	100	10		63642531864
	120	10		63642546759
	150	10		63642569202
	240	10		63642546724
	320	10		63642539942

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, W = Width, B = Bore, S = Spindle

## SPINDLE MOUNTED (CONTINUED)

DIM DIAxWxS (mm)	GRIT	PK QTY	BETTER	GOOD
			R822	R207
50x30x6	40	10		63642539943
	60	10		63642534251
	80	10		63642561879
	100	10		63642546765
	120	10		63642531863
	150	10		63642531860
	320	10		63642546725
60x15x6	40	10		63642546773
	60	10		69957360901
	80	10		63642546767
	100	10		63642546764
	120	10		63642546758
	150	10		69957360902
	240	10		69957360903
60x20x6	40	10		63642536738
	60	10		63642531869
	80	10		63642531866
	100	10		63642546763
	120	10		63642531862
	150	10		63642559975
	240	10		63642539770
60x30x6	40	10	63642539952	63642536737
	60	10	63642536547	63642531868
	80	10	63642539953	63642531865
	100	10		63642546762
	120	10		63642531861
	150	10		63642560343
	240	10		63642546694
80x30x6	40	10	63642539954	69957360911
	60	10	63642539955	63642531867
	80	10	63642536548	63642533096
	100	10		69957364103
	120	10		63642534250
	150	10		63642562580
	240	10		63642545895
80x50x6	40	10		69957360914
	60	10		63642559718
	80	10		69957360916
	120	10		69957360917
	150	10		63642539947
	240	10		63642539948

Dimensions Key: DIM = Dimensions, DIA = Diameter, W = Width, S = Spindle

NOTES

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The tool-free fastening systems make fast work of disc changes to maximise productivity and minimise downtime. They can be used on contours as well as flat surfaces.

**APPLICATIONS & MARKETS**

- Weld blending
- Light deburring & finishing
- Blending



**INNOVATION  
BEST**

**R980 X-TREME LIFE BLAZE**



**FEATURES**

- 100% premium SG® abrasive
- 3rd layer Supersize with active filler
- 3 ply polyester backing

**BENEFITS**

- High metal removal rate, even at medium pressure
- Cool cutting
- Best part cut & finish on stainless steel, inconels, chromium cobalt or titanium
- Exceptionally longer life, durability & aggressiveness



**F986 GREENLYTE PLUS**



**FEATURES**

- SG® abrasive
- Heavy fibre backing

**BENEFITS**

- High metal removal rate & long life
- Sharpness throughout the life of the disc
- Tear resistant with reduced edge wear



BEST

## R981 SG®

SG

FERR.  
& NON  
FERR.



### FEATURES

- SG® abrasive
- Heavyweight backing

### BENEFITS

- Aggressive cutting
- High & fast stock removal on hard & soft metals
- Extended durability



## MX DISCS

FERR.  
& NON  
FERR.



### FEATURES

- Unique construction of multiple layers of cotton fibre
- Suitable for medium to light removal, deburring & finishing

### BENEFITS

- Excellent cushioned grinding action
- Have the ability to grind & finish in one action
- Can increase productivity by reducing the number of process steps



## MINI-FLEXI FLAP DISCS

FERR.  
& NON  
FERR.



### FEATURES

- R822 NorZon® flexible cloth
- 50mm nylon backing
- Incorporated quick change system (TR)
- Available in grit range 40 to 80

### BENEFITS

- Longer life with excellent finish
- Ideal for working on small, difficult to access & contoured surfaces
- Quick & easy to change
- Blending & finishing in one operation



**BEST**

### MINI FLAP DISCS

FERR. & NON FERR.



#### FEATURES

- R822 NorZon® cloth
- 50mm/75mm nylon backing
- Incorporated quick change system (TR)
- Available in grit range 40 to 80

#### BENEFITS

- High stock removal
- Fast cutting capacity
- Long life
- Ideal for working on small, difficult to access areas
- Quick & easy to change
- Blending & finishing in one operation



**BETTER**

### NORZON® PLUS

*NORZON PLUS*

FERR. & NON FERR.



#### FEATURES

- Zirconia alumina abrasive with grinding aid
- Heavyweight backing

#### BENEFITS

- High stock removal with a cool cutting action
- Extended durability



### R822 NORZON®

*NORZON*

FERR. & NON FERR.



#### FEATURES

- NorZon® abrasive
- Heavy cotton cloth

#### BENEFITS

- Long lasting cutting edges especially on stainless steel
- Durable & hardwearing



### SPEC CHECK

- For greater flexibility in contoured applications use a holder one size smaller than the diameter of the disc, e.g. use a 38mm holder with a 50mm disc

GOOD

### R230

FERR.  
& NON  
FERR.



#### FEATURES

- High performance aluminium oxide
- Double layer cloth backing
- Open-coat grain distribution

#### BENEFITS

- Multi-purpose Economy product ideal for grinding ferrous metals
- Flexibility for contour grinding
- Reduced clogging



### RV71

FERR.  
& NON  
FERR.



#### FEATURES

- High performance aluminium oxide
- Strong cotton laminated backing
- Open-coat grain distribution

#### BENEFITS

- Multi-purpose Economy product ideal for general purpose applications
- Durability for edge wear & fray resistance
- Reduced clogging



## PRODUCT SELECTION

### MAXIMUM OPERATING SPEED (RPM)

DIA (mm)	STAINLESS	ALUMINIUM	MID STEEL	TITANIUM	GLASS	COMPOSITES
38	20000	20000	30000	9000	9000	15000
50	15000	15000	20000	7000	7000	10000
75	10000	10000	15000	4500	4500	8000

### ATTACHMENTS/BACK-UP PADS

#### TS - Type 2 - SL2



Turn on/turn off system using a metal to metal fixing on pad (TS) with spindle



#### TR - Type 3 - SL3



Roll-on/roll off system using a nylon threaded male button on pad (TR) with spindle



**SPEEDLOK® DISCS TR ATTACHMENT (Type 3 – SL3)**



			<b>SG BLAZE</b>	<b>GREEN VITE PLUS</b>	<b>SG CERAMIC</b>	<b>NORZON PLUS</b>	<b>NORZON</b>	<b>ALOX</b>	
DIA (mm)	GRIT	PK QTY	<b>INNOVATION</b>	<b>BEST</b>		<b>BETTER</b>		<b>GOOD</b>	
			<b>BEST</b>						
			R980	F986	R981	PLUS	R822	R230	RV71
25	60	50					63642556393	63642560853	
38	36	50			63642561013	63642587423	63642560879	63642560856	63642586622
	50	50				63642587424			63642586626
	60	50			63642556536	63642587425	63642560880	63642560857	63642586628
	80	50			63642561014	63642587426			63642586629
	120	50				63642587427		63642560859	63642586631
50	180	50							63642586633
	36	50	63642597039	63642556449	63642561015	63642556405	63642560882	63642560860	63642586683
	50	50	63642597045	63642587282		63642587202			63642586685
	60	50	63642597050	63642556453	63642561016	63642556407	63642556396	63642509739	69957389332
	80	50	63642597052	63642587285		63642587207	63642560884	63642560862	63642586687
	120	50		63642587286	66261137752	63642587208	63642560885	63642571044	63642586689
	180	50							63642586691
75	240	50							63642586694
	320	50							63642586695
	36	50	63642597053	63642556546	63642556433	63642587245	63642560886	63642556363	63642586723
	50	50		63642587290		63642587246	69957389465		63642586728
	60	50	63642597060	63642556548	63642561020	63642556411	63642560887	63642556364	63642586731
	80	50		63642587291	63642561021	63642587247	63642560888		63642586733
	120	50		63642587292	63642560851	63642587248		63642556366	63642586735
180	50							63642586738	

**SPEEDLOK® SPECIALIST DISCS TR ATTACHMENT (Type 3 – SL3)**



DIA (mm)	GRADE	PK QTY	<b>BEST</b>		
			<b>MX DISCS</b>	<b>MINI FLEXI-FLAP DISCS</b>	<b>MINI FLAP DISC</b>
50	XCRS	10	63642588003	66261180889	66261180892
	COA	10	63642588004	66261180890	66261180893
	MED	10	69957382847	66261180891	66261180894
	FINE	10			
75	XCRS	10	63642588005		63642527476
	COA	10	63642588007		66261180904
	MED	10	69957382850		63642527482
	FINE	10			

Dimensions Key: DIA = Diameter

**SPEEDLOK® DISCS TS ATTACHMENT (Type 2 - SL2)**



DIA (mm)	GRIT	PK QTY	<i>SG BLAZE</i>		<i>SG CERAMIC</i>	<i>NORZON PLUS</i>	<i>NORZON</i>	<i>ALOX</i>	
			<b>INNOVATION BEST</b>	BEST		BETTER		GOOD	
			R980	F986	R981	PLUS	R822	R230	RV71
25	36	50				63642586745		63642518967	63642586540
	50	50				63642587410		63642526221	63642586564
	60	50				63642587411	63642556392	63642513099	63642586572
	80	50				63642587412		63642513100	63642586574
	120	50				63642587414		63642513101	63642586576
	180	50							63642586578
38	36	50			63642556415	63642587396	63642549604	63642556327	63642586583
	50	50			63642518312	63642587397	66261138622	66261176553	63642586587
	60	50			63642556418	63642587398	63642549607	63642556357	63642586596
	80	50			63642565569	63642587383	63642549606	63642522262	63642586607
	120	50			63642539851	63642587416		63642556296	63642586608
	180	50							63642586609
	240	50							63642586611
	320	50							63642586617
50	36	50	69957390698	63642518444	63642556423	63642556399	63642549747	63642539847	63642586651
	40	50						63642513105	
	50	50	69957390699		63642549746	63642587194	69957360306	63642522261	63642586654
	60	50	69957390700	63642556445	63642556425	63642556403	63642549748	63642539853	63642586656
	80	50			66261137775	63642587203	63642549749	63642523148	63642586660
	120	50			63642587266	63642587204	66261115917	63642539856	63642586671
	180	50							63642586675
	240	50							63642586680
	320	50							63642586681
75	36	50	69957390702	63642556455	63642556427	63642587209	63642549605	63642556360	63642587722
	50	50	69957390703		63642539859	63642587210	69957360307	69957387062	63642586697
	60	50		63642556454	63642556428	63642556408	63642539858	63642556361	63642586699
	80	50			63642587275	63642587214	69957360313	63642520884	63642586705
	120	50			63642519733	63642587217		63642556362	63642586708
	180	50							63642586712
	240	50							63642586715
	320	50							63642586718



## SPEEDLOK® KIT TR ATTACHMENT (Type 3 – SL3)



TYPE	DIA (mm)	GRIT/GRADE DENSITY	PK QTY
GREENLYTE PLUS F986	50	36	2
	50	60	2
SG® CERAMIC R981	50	36	2
	50	60	2
NORZON® PLUS	50	36	2
	50	60	2
NORZON® R822	50	36	2
	50	60	2
	50	80	2
R230	50	36	2
	50	60	2
	50	80	2
	50	120	2
ALOX RV81	50	36	2
	50	60	2
SURFACE BLENDING BEARTEX®	50	Coarse	2
	50	Fine	2
	50	Very Fine	2
UNITIZED	50	Fine	1
STRIPPA	50	Coarse	1
RUBBER BACK-UP PAD	50	Medium	1



## SPEEDLOK® KIT TS ATTACHMENT (Type 2 – SL2)



TYPE	DIA (mm)	GRIT/GRADE DENSITY	PK QTY
GREENLYTE PLUS F986	50	36	2
	50	50	2
SG® CERAMIC R981	50	36	2
	50	50	2
NORZON® PLUS	50	36	2
	50	50	2
	50	80	2
ALOX PLUS RV81	50	120	2
	50	36	2
	50	60	2
ALOX RV71	50	36	2
	50	60	2
	50	80	2
SURFACE BLENDING BEARTEX®	50	120	2
	50	Coarse	2
	50	Medium	2
SURFACE BLENDING BEARTEX®	50	Very Fine	2
	50	Medium	1
RUBBER BACK-UP PAD	50	Medium	1



Dimensions Key: DIA = Diameter

**BACK-UP PADS TR ATTACHMENT (Type 3 - SL3)**



DIA (mm)	DENSITY	PK QTY	RUBBER WITH SPINDLE	PLASTIC HOLDER M14	RUBBER HOLDER M14	ADAPTOR
25	Medium	1	63642556628			
38	Medium	1	63642556629			
50	Medium	1	07660717817			
	Hard	1	63642586931			
75	Medium	1	63642556631		63642587305	
	Blue	1		63642557133		
1/4-M14		1				63642587997

**BACK-UP PADS TS ATTACHMENT (Type 2 - SL2)**



DIA (mm)	DENSITY	PK QTY	RUBBER WITH SPINDLE
25	Medium	1	07660718963
38	Medium	1	07660707032
50	Medium	1	63642501157
	Hard	1	63642586926
75	Medium	1	07660707384
	Hard	1	63642586932



Boasting an outstanding selection of shapes, sizes and grains, the new coated 'Specialties' range can be used in general purpose applications as well as more specific problematic applications. They are ideal for grinding and blending intricately shaped and contoured components, or for high speed, accurate grinding.

#### APPLICATIONS & MARKETS

- Metal
- Wood
- Recesses
- Contours
- Corners
- Angles



## CARTRIDGE ROLLS

FERR.  
& NON  
FERR.



#### FEATURES

- Available in straight or tapered shapes

#### BENEFITS

- Straight rolls wear to the shape required
- Tapered shape is especially suited for use on contoured parts
- For sanding & polishing channels, fillets, recesses, radii, small contours & the bottom of dead-end holes



## CARTRIDGE ROLLS STRAIGHT ZPE

DIM BSxLxB(mm)	GRIT	MANDREL CODE	PK QTY	GOOD	
				R230	
5x19x2,4	120	CRM2	100	636425 <b>87344</b>	
6x25x3,2	80	CRM4	100	636425 <b>56660</b>	
	120	CRM4	100	636425 <b>56667</b>	
6x38x3,2	80	CRM5	100	636425 <b>56674</b>	
	120	CRM5	100	636425 <b>56677</b>	
	150	CRM5	100	636425 <b>56678</b>	
8x38x3,2	80	CRM5	100	636425 <b>56680</b>	
10x25x3,2	80	CRM4	100	636425 <b>56812</b>	
	120	CRM4	100	636425 <b>56685</b>	

**Dimensions Key:** DIM = Dimensions, BS = Base, L = Length, B = Bore

**KITS**

To help you select the correct product, the cartridge roll kit contains 122 pieces of the most popular shapes, sizes & grits

■ 122 Piece Cartridge Roll Kit

63642557136



**CARTRIDGE ROLLS STRAIGHT ZPE (CONTINUED)**

DIM BSxLxB(mm)	GRIT	MANDREL CODE	PK QTY	GOOD
				R230
10x38x3,2	60	CRM5	100	63642556687
	80	CRM5	100	63642556689
	120	CRM5	100	63642556691
13x25x3,2	80	CRM4	100	63642556690
	120	CRM4	100	63642556692
13x38x3,2	60	CRM5	100	66261181251
	80	CRM5	100	63642556694
	120	CRM5	100	63642556696
16x38x4,8	80	CRM7	100	63642556697
19x25x4,8	80	CRM6	100	63642556698
	120	CRM6	100	63642556700
19x50x4,8	60	CRM8	100	69957386966
	80	CRM8	100	63642556701

**CARTRIDGE ROLLS TAPERED - ZSPI**

DIM BSxLxB(mm)	GRIT	MANDREL CODE	PK QTY	GOOD
				R230
10x25x3,2	60	CRM4	100	63642556703
13x38x3,2	80	CRM5	100	63642556733
	120	CRM5	100	63642556734
19x25x4,8	80	CRM6	100	63642556735
19x38x3,2	80	CRM5	100	63642556738
19x38x4,8	80	CRM7	100	63642556739
	120	CRM7	100	63642586866

**CARTRIDGE ROLLS MANDRELS - ML**

DIM BSxL(mm)	MANDREL CODE	PK QTY	
2,4x25	CRM2	1	63642587107
3,2x13	CRM3	1	63642587120
3,2x19	CRM4	1	63642556790
3,2x25	CRM5	1	63642556791
4,8x19	CRM6	1	63642556789
4,8x25	CRM7	1	63642556793
4,8x38	CRM8	1	63642556794

BETTER

## SPIRABANDS

FERR. & NON FERR.
PAINT/VARN. HARD WOOD & SOFT WOOD
GLASS

FEATURES	BENEFITS
■ Selection of sizes & grades	■ An excellent blending & deburring tool
■ Strong construction	■ Aggressive cut
■ Use with a rubber holder	■ Forgiving finish
■ Easy to fit	■ Can reduce downtime

## SPIRABANDS ZSB

			<i>NORZON</i>	
			BETTER	GOOD
DIM DIAxW(mm)	GRIT	PK QTY	R822	R265
10x10	80	100	63642536539	
10x20	80	100	63642539862	
13x25	50	100	63642528507	
	80	100	63642528508	
15x10	80	100	63642539863	
15x30	50	100	63642528509	
	80	100	63642528496	
22x20	36	100	63642539865	
	50	100	63642528497	
	60	100	63642539866	
	80	100	63642539867	
	150	100		63642539868
25x25	36	100	63642528510	
	50	100	63642528511	
	80	100	63642528512	
30x30	36	100	63642566870	
	50	100	63642535053	
	60	100	63642545925	
	80	100	63642545926	
	150	100		63642536540
45x30	36	100	63642528498	
	50	100	63642528514	
	60	100	63642545928	
	80	100	63642528515	
51x25	80	100	63642528518	
60x30	36	100	63642536541	
	50	100	63642539765	
	60	100	63642539874	
	80	100	63642539766	
100x40	80	100	63642539768	

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, W = Width

## SPIRABAND MANDRELS

DIM DIAxW(mm)	PK QTY	
10x10x6	10	07660707917
10x20x6	10	07660717573
13x25x6	10	07660705185
15x10x6	10	07660717629
15x30x6	10	07660705182
19x25x6	10	07660717567
22x20x6	10	63642562578
25x25x6	10	07660705183
30x20x6	10	07660717630
30x30x6	10	07660707918
38x25x6	10	07660717568
45x30x6	10	07660705196
51x25x6	10	07660705184
60x30x6	10	07660717631



## OVERLAP SLOTTED DISCS

FERR.  
& NON  
FERR.



**BEST**

### FEATURES

- Aluminium oxide abrasive

### BENEFITS

- For rapid aggressive grinding, deburring, blending, finishing & polishing.
- Ideal for use on cylinder walls, inside diameters of tubes, frontal & bottom areas of recesses, & for chamfering drilled or stamped holes



## SLOTTED DISCS zOSDs

DIA (mm)	ATTACHMENT	GRIT	PK QTY	BEST
				R228/R230
38	MM32-4 8 PLY	60	10	63642586870
		120	10	63642586869
50		60	10	63642586871
		120	10	63642586886
75	MM20-4	60	10	63642586954
		120	10	63642586960
100		60	10	63642586981
		120	10	63642586983

For slotted disc mandrels, please refer to the following page

BEST

## SQUARE PADS


FERR. & NON FERR.

### FEATURES

- Unique construction

### BENEFITS

- Corners wear down consistently, continually exposing fresh abrasive
- Grinds almost as fast as hard wheels but they are much smoother & easier to control
- For quick blending of difficult to access channels, fillets, corners, or spotting flat surfaces



SQUARE PADS ZSPs				
DIA (mm)	ATTACHMENT	GRIT	PK QTY	BEST
38	MM32-4 8 PLY	60	10	636425 <b>87008</b>
	MM32-4 8 PLY	120	10	636425 <b>87010</b>
50	MM32-4 8 PLY	60	10	636425 <b>87014</b>
	MM32-4 8 PLY	120	10	636425 <b>87018</b>
75	MM20-4	60	10	636425 <b>87021</b>
	MM20-4	120	10	636425 <b>87022</b>

MANDRELS SLOTTED DISCS & SQUARE PADS				
DIA (mm)	ATTACHMENT	PK QTY	MANDREL	
6	MM20-4	1	636425 <b>87142</b>	
6	MM32-4	1	636425 <b>87136</b>	
6	MM48-4	1	636425 <b>87135</b>	



Dimensions Key: DIA = Diameter

## SANDING STARS WITH SPINDLE

FERR.  
& NON  
FERR.



BEST

### FEATURES

- Flexible
- Wide selection of aluminium oxide abrasive grits
- Range of sizes

### BENEFITS

- Ideal for deburring & polishing difficult to access metal applications
- Achieves the desired finish
- Can be used on small scale as well as large applications




## SANDING STARS WITH SPINDLE


DIA (mm)	GRIT	PK QTY	BEST
			RV52
40	80	10	63642587026
	120	10	63642587034
	240	10	63642587036
	320	10	63642587037
60	80	10	63642587038
	120	10	63642587040
	240	10	63642587042
	320	10	63642587046
80	80	10	63642587050
	120	10	63642587064
	240	10	63642587068
	320	10	63642587070
100	80	10	63642587074
	120	10	63642587076
	240	10	63642587077
	320	10	63642587093




BETTER

## CONES

FERR.  
& NON  
FERR.  


SHOE  


FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Available in varying heights &amp; diameters</li> <li>■ Mounted on expanded rubber drums</li> <li>■ Used for grinding, deburring &amp; polishing</li> </ul>	<ul style="list-style-type: none"> <li>■ Ideal for use on irregular shaped components such as curves, or recesses</li> <li>■ Easy fitting</li> <li>■ Useful for repair work in the shoe industry</li> </ul>




## CONES zco

DIM BxLxDG(mm)	GRIT	PK QTY	BETTER
			R822
20x14x63	36	100	662611 <b>76761</b>
	50	100	662611 <b>76657</b>
	80	100	662611 <b>76656</b>
	120	100	662611 <b>76540</b>
29x22x30	50	100	636425 <b>13692</b>
36x22x60	36	100	636425 <b>20987</b>
	50	100	636425 <b>36572</b>
	80	100	636425 <b>45922</b>
	120	100	662611 <b>76703</b>
50x20x40	40	100	636425 <b>36708</b>
64x16x31	40	100	636425 <b>47686</b>
82x38x40	40	100	636425 <b>46300</b>
85x34x45	40	100	636425 <b>46211</b>

## CONE HOLDERS ML(ZCO)

DIM BxLxDG(mm)	
20x14x63	076607 <b>40439</b>
36x22x63	076607 <b>40441</b>



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, B = Bore, L = Length, DG = Degree

## FLEXI DISCS

NORZON

GOOD

FERR.  
& NON  
FERR.



### FEATURES

- Premium NorZon® grain
- Flexible cloth backing
- Angular flap disc construction
- Available in grit range 40, 60, 80

### BENEFITS

- Remove material quickly & effectively
- Adapt to contours & improved finish
- Increased flexibility in use



## FLEXI DISCS FLD FXSF

			NORZON
			GOOD
DIA (mm)	GRIT	PK QTY	R822
115	40	10	63642544276
	60	10	63642544277
	80	10	63642544278
127	40	10	66261177415
	60	10	66261177416
	80	10	66261177417



# TUNGSTEN CARBIDE BURRS

Innovative technology is now used in the range in the form of the new “Dtech” cutting edges, as well as the introduction of the new high performance Xtrem products. This new extended line of carbide burrs covers a variety of toothings and cutting shapes giving them optimum adaptation to the key characteristics of various application materials.



## APPLICATIONS & MARKETS

- Weld removal
- Chamfering
- Weld preparation
- Deburring
- Aerospace
- Automotive
- Shipbuilding
- Foundry
- Aviation

BEST

**XTREM**

FERR. & NON FERR.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ TiAlN (Titanium aluminium nitride) coating</li> </ul>	<ul style="list-style-type: none"> <li>■ Better sliding characteristics for improved removal of chippings</li> <li>■ Less wear of tothing</li> <li>■ Less heat build up</li> <li>■ Reduction of cutting pressure due to improved lubrication</li> <li>■ Ideal for use on the hardest, Xtrem materials</li> </ul>
<ul style="list-style-type: none"> <li>■ Tungsten carbide head</li> </ul>	<ul style="list-style-type: none"> <li>■ Capable of being used at high speeds &amp; at high temperatures</li> </ul>
<ul style="list-style-type: none"> <li>■ Skip flute design</li> </ul>	<ul style="list-style-type: none"> <li>■ Long life</li> </ul>
<ul style="list-style-type: none"> <li>■ Wide variety of cuts available</li> </ul>	<ul style="list-style-type: none"> <li>■ Sharp cutting edges for improved productivity &amp; longer product life</li> </ul>
<ul style="list-style-type: none"> <li>■ Wide variety of shapes available</li> </ul>	<ul style="list-style-type: none"> <li>■ Suitable for many different applications</li> </ul>


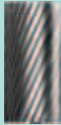









BETTER

**STANDARD**

FERR. & NON FERR.

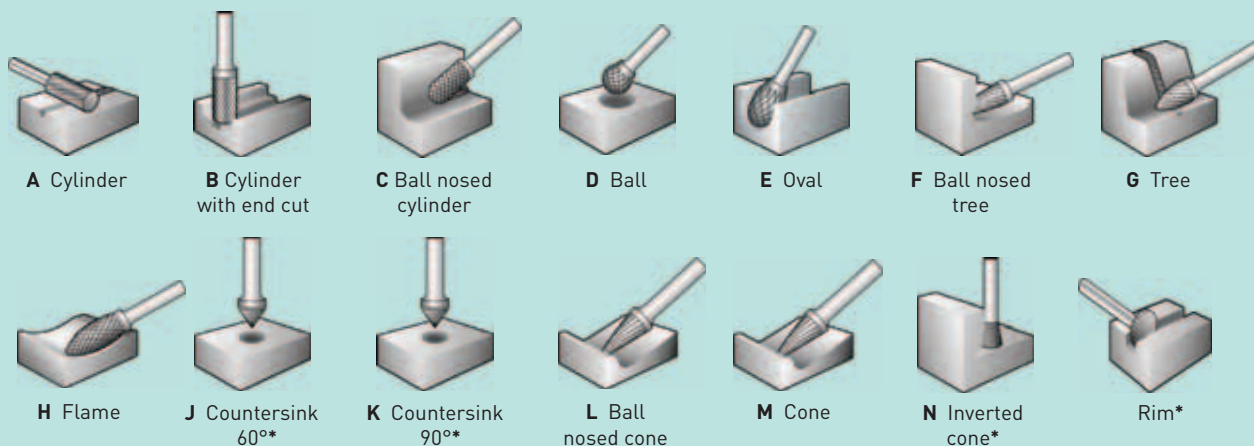
FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Tungsten carbide head</li> </ul>	<ul style="list-style-type: none"> <li>■ Capable of being used at high speeds &amp; at high temperatures</li> </ul>
<ul style="list-style-type: none"> <li>■ Skip flute design</li> </ul>	<ul style="list-style-type: none"> <li>■ Long life</li> </ul>
<ul style="list-style-type: none"> <li>■ Wide variety of cuts available</li> </ul>	<ul style="list-style-type: none"> <li>■ Sharp cutting edges for improved productivity &amp; longer product life</li> </ul>
<ul style="list-style-type: none"> <li>■ Wide variety of shapes available</li> </ul>	<ul style="list-style-type: none"> <li>■ Suitable for many different applications</li> </ul>

# PRODUCT SELECTION

USAGE KEY						
	D DOUBLE CUT	DTECH DOUBLE CUT EXTRA	ALU ALUMINIUM SPECIAL	DF* FINE DOUBLE CUT	BC* CHIP BREAKER	S* SIMPLE
QUALITIES	Universal cutting style. Fast material removal. Smooth finish. Granular chip break.	Better stock removal. Stronger tooth formation (decreased tooth wedge angle). Longer tool life. Reduced chipping.	For deburring of aluminium alloys & plastic wide tooth formation. Easy chip flow.	Granular chip break. Fine finish applications. Use on heat treated & tough alloy steel.	General purpose deburring.	General purpose application produces scratch free surface.
<b>XTREM</b>						
Steel						
Hardened steel						
Stainless steel						
Cast iron						
Titanium						
Nickel						
Copper/copper alloys						
Aluminium						
Plastics						
<b>STANDARD</b>						
Steel						
Hardened steel						
Stainless steel						
Cast iron						
Titanium						
Nickel						
Copper/copper alloys						
Aluminium						
Plastics						
Cement						

\*Made-to-order

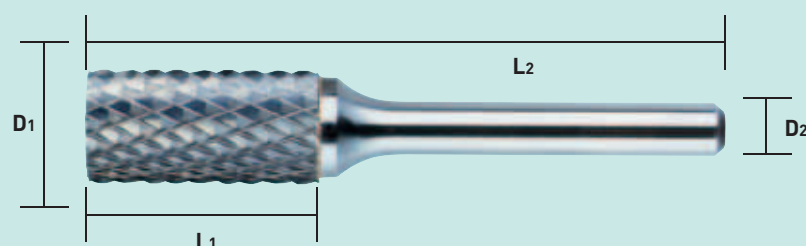
## PRODUCT SELECTION



\*Made-to-order

### DIMENSIONS & DESCRIPTION OF THE BURR

<b>A</b>	<b>16,0</b>	<b>x</b>	<b>25,0</b>	<b>6x65</b>	<b>DTECH</b>
Shape	Diameter of the head		Length of the head	Diameter of the shank & overall length of the burr (OL)	Cut style
	<b>D<sub>1</sub></b>		<b>L<sub>1</sub></b>	<b>D<sub>2</sub> + L<sub>2</sub></b>	



### RECOMMENDED OPERATING SPEEDS (RPM)

MATERIAL TYPE	∅	∅	∅	∅	∅
	3mm	6mm	10mm	12mm	16mm
Steel	60000-90000	45000-90000	30000-40000	22500-30000	18000-24000
Tempered steel	60000-90000	30000-45000	19000-30000	15000-22500	12000-18000
Stainless steel	60000-90000	30000-45000	19000-30000	15000-22500	12000-18000
Casting	45000-90000	22500-60000	15000-40000	11000-30000	9000-24000
Titanium	60000-90000	30000-45000	19000-30000	15000-22500	12000-18000
Nickel	60000-90000	30000-45000	19000-30000	15000-22500	12000-18000
Copper & copper alloys	45000-90000	22500-60000	15000-40000	11000-30000	9000-24000
Aluminium	30000-90000	15000-70000	10000-50000	7000-38000	6000-30000
Plastics	30000-90000	15000-70000	10000-50000	7000-38000	6000-30000
Cement	60000-90000	30000-45000	19000-30000	15000-22500	12000-18000

## SKIP FLUTE GEOMETRY



Skip flute geometry

All Norton Carbide Burrs have what is known as skip flute geometry, which means products are more precise and have improved cutting characteristics. This also gives greater strength and improved removal of chips.



Conventional "centred" geometry

## ADVANTAGES OF XTREM

Standard

**XTREM**

Material removed 0 200 400 600 800 1000 1200 1400 1600 1800


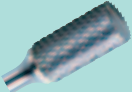

Tool: **Standard**: Shape F-12x25 6x70 Norton DTECH cut  
**Xtrem**: Shape F-12x25 6x70 Norton XTREM DTECH cut  
 Workpiece: Mild Steel

## SPEC CHECK

- For more information about these products as well as made-to-order capabilities, please refer to the Tungsten Carbide Burrs Catalogue






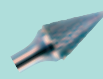


Dimensions Key: DIM = Dimensions, D<sup>1</sup> = Head Diameter, L<sup>1</sup> = Head Length, D<sup>2</sup> = Shank Diameter, L<sup>2</sup> = Shank Length

TUNGSTEN CARBIDE BURRS				XTREM	
PRODUCT SHAPE	SUB SHAPE	DIM D <sup>1</sup> xL <sup>1</sup> xD <sup>2</sup> xL <sup>2</sup> (mm)	PK QTY	BEST	BETTER
				XTREM	STANDARD
<p>A CYLINDER</p> 	D	3x13x3x38	1		63642586518
	D	6x19x6x50	1	69957383214	60157638141
	D	8x19x6x65	1		60157638143
	ALU	10x19x6x65	1	69957383216	60157638195
	D	10x19x6x65	1	69957383215	60157638144
	D	10x25x6x162	1		63642535764
	ALU	12x25x6x70	1	69957383220	63642586517
	D	12x25x6x70	1	69957383219	07660707808
<p>B CYLINDER WITH END CUT</p> 	D	3x13x3x38	1		60157638140
	D	6x19x6x50	1	63642595182	63642586641
	D	8x19x6x65	1		07660707804
	D	8x19x6x175	1		63642535757
	ALU	10x19x6x65	1	69957383228	07660739845
	D	10x19x6x65	1	69957383223	60157638145
	DTECH	10x19x6x65	1	69957383227	07660739844
	D	12x19x6x65	1	63642595184	
	ALU	12x19x6x65	1	69957383232	63642586623
	D	12x25x6x70	1	69957383229	60157638147
	DTECH	12x25x6x70	1	69957383230	60157638174
	D	16x25x6x70	1		60157638190
<p>C BALL NOSED CYLINDER</p> 	D	3x13x3x38	1	63642595185	63642586710
	D	6x13x6x162	1		63642535773
	D	6x19x6x50	1	69957383234	60157638150
	D	8x19x6x65	1		60157638151
	ALU	10x19x6x65	1	69957383239	60157638182
	D	10x19x6x65	1	69957383236	60157638152
	DTECH	10x19x6x65	1	69957383238	07660739841
	D	12x19x6x65	1		60157638153
	ALU	12x19x6x65	1	69957383278	07660707846
	D	12x25x6x70	1	69957383241	60157638154
	DTECH	12x25x6x70	1	69957383277	60157638175
	D	16x25x6x70	1		60157638191
<p>D BALL</p> 	D	3x2,5x3x75	1		63642535794
	D	3x2,7x3x38	1		63642586859
	D	6x5x6x150	1		63642535770
	D	6x5,4x6x50	1		60157638166
	D	8x7,2x6x52	1		60157638167
	D	10x9x6x53	1	69957383279	07660707832
	D	12x10,8x6x55	1	69957383281	69957383148

**Dimensions Key:** DIM = Dimensions, D<sup>1</sup> = Head Diameter, L<sup>1</sup> = Head Length, D<sup>2</sup> = Shank Diameter, L<sup>2</sup> = Shank Length

**TUNGSTEN CARBIDE BURRS (CONTINUED)**

PRODUCT SHAPE	SUB SHAPE	DIM D <sup>1</sup> xL <sup>1</sup> xD <sup>2</sup> xL <sup>2</sup> (mm)	PK QTY	<b>XTREM</b>	
				BEST	BETTER
				XTREM	STANDARD
<b>E</b> OVAL 	D	3x6x3x38	1		636425 <b>86891</b>
	D	6x10x6x50	1		636425 <b>86892</b>
	D	10x16x6x60	1		601576 <b>38159</b>
	D	12x22x6x67	1		601576 <b>38162</b>
<b>F</b> BALL NOSED TREE 	D	3x12,7x3x75	1		699573 <b>90247</b>
	D	3x13x3x38	1		636425 <b>86953</b>
	D	6x16x6x50	1	699573 <b>83296</b>	636425 <b>86955</b>
	ALU	10x19x6x65	1	699573 <b>83300</b>	636425 <b>86951</b>
	D	10x19x6x65	1	699573 <b>83299</b>	601576 <b>38170</b>
	ALU	12x25x6x70	1	699573 <b>83303</b>	601576 <b>38181</b>
	D	12x25x6x70	1	699573 <b>83301</b>	601576 <b>38171</b>
	DTECH	12x25x6x70	1	699573 <b>83302</b>	601576 <b>38179</b>
	D	12x25x8x70	1		601576 <b>38172</b>
	D	16x25x6x70	1		636425 <b>86952</b>
<b>G</b> TREE 	D	3x13x3x38	1		601576 <b>38163</b>
	D	6x16x6x50	1	699573 <b>83305</b>	601576 <b>38164</b>
	D	10x19x6x65	1	699573 <b>83307</b>	601576 <b>38165</b>
	D	12x25x6x70	1	699573 <b>83310</b>	076607 <b>07829</b>
<b>H</b> FLAME 	D	8x19x6x65	1		601576 <b>38160</b>
	D	12x32x6x77	1	699573 <b>83312</b>	636425 <b>87971</b>
<b>L</b> BALL NOSED CONE 	D	6x16x5x50	1		601576 <b>38156</b>
	ALU	6x16x6x50	1		636425 <b>87095</b>
	D		1	699573 <b>83313</b>	
	D	8x19x6x69	1		636425 <b>87104</b>
	D	10x27x6x75	1		636425 <b>87100</b>
	ALU	12x30x6x75	1	699573 <b>83325</b>	636425 <b>87101</b>
	D		1	699573 <b>83320</b>	636425 <b>87102</b>
	DTECH	12x30x6x75	1	699573 <b>83321</b>	636425 <b>87067</b>
	D	16x33x8x78	1		636425 <b>87103</b>
<b>M</b> CONE 	D	3x11x3x38	1		636425 <b>87134</b>
	D	3x11,7x3x75	1		636425 <b>35767</b>
	D	6x19x6x50	1	699573 <b>83326</b>	636425 <b>87137</b>
	D	6x25x6x50	1		636425 <b>87138</b>
	D	10x16x6x65	1		636425 <b>87133</b>
	D	12x22x6x70	1	699573 <b>83328</b>	601576 <b>38149</b>

## XTREM BURR KITS

				<b>XTREM</b>
KIT	SHAPE	DIM D <sup>1</sup> xL <sup>1</sup> xD <sup>2</sup> xL <sup>2</sup> (mm)	PK QTY	BEST
D	B	10x19x6x65	1	699573 <b>85143</b>
	B	12x25x6x70	1	
	C	10x19x6x65	1	
	C	12x25x6x70	1	
	L	12x30x6x75	1	
	E	10x16x6x60	1	
	G	10x19x6x65	1	
	G	12x25x6x70	1	
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	
DTECH	B	10x19x6x65	1	699573 <b>85141</b>
	B	12x25x6x70	1	
	C	10x19x6x65	1	
	C	12x25x6x70	1	
	L	12x30x6x75	1	
	E	10x16x6x60	1	
	G	10x19x6x65	1	
	G	12x25x6x70	1	
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	
ALU	B	12x25x6x70	1	699573 <b>85142</b>
	C	12x25x6x70	1	
	L	12x30x6x75	1	
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	



## STANDARD BURR KITS

KIT	SHAPE	DIM D <sup>1</sup> xL <sup>1</sup> xD <sup>2</sup> xL <sup>2</sup> (mm)	PK QTY	BETTER
				STANDARD
D	A	3x13x3x38	1	07660708056
	B	3x13x3x38	1	
	M	3x11x3x38	1	
	C	3x13x3x38	1	
	L	3x8x3x38	1	
	H	3x8x3x38	1	
	E	3x6x3x38	1	
	G	3x13x3x38	1	
	D	3x2,7x3x39	1	
F	3x13x3x38	1		
DTECH	A	10x19x6x65	1	07660739870
	A	12x25x6x70	1	
	C	10x19x6x65	1	
	C	12x25x6x70	1	
	L	12x30x6x75	1	
	E	10x16x6x60	1	
	G	10x19x6x65	1	
	G	12x25x6x70	1	
	D	12x10,8x6x55	1	
F	12x25x6x70	1		



Norton tape has been designed to extremely high standards. It's adhesive strength and flexibility makes sure it conforms easily to contours and irregular surfaces, helping to save time.



## MASKING TAPE

### FEATURES

- Rubber solvent based adhesive
- Saturated paper backing

### BENEFITS

- Good adhesion on all surfaces
- Excellent resistance to paint & thinners
- Easy to remove leaving no adhesive residue
- Conforms to most surfaces
- Compatible with most common paints & lacquers
- Can be removed without ripping
- Can be torn by hand



## SPEC CHECK

PRODUCT	TEMPERATURE/TIME	APPLICATION
Premium Quality	Up to 100°C/30 min	Automotive
Medium Quality	Up to 80°C/30 min	Automotive-Building
General Purpose	60°C	Building

**Dimensions Key:** DIM = Dimensions, W = Width, T = Thickness, L = Length

## MASKING TAPE

DIM WxL	PK QTY	BEST	BETTER	GOOD
		PREMIUM QUALITY	MEDIUM QUALITY	GENERAL PURPOSE
19mmx50M	48	699573 <b>94601</b>	699573 <b>94605</b>	699573 <b>94617</b>
25mmx50M	36	699573 <b>94602</b>	699573 <b>94609</b>	699573 <b>94619</b>
38mmx50M	24	699573 <b>94603</b>	699573 <b>94611</b>	699573 <b>94623</b>
50mmx50M	24	699573 <b>94604</b>	699573 <b>94614</b>	699573 <b>94631</b>

## INSULATION TAPE

DIM WxL	PK QTY	COLOUR	BETTER
15mmx10M	20	Assorted	076607 <b>17713</b>
	200	Black	076607 <b>17710</b>
19mmx10M	40	Black	076607 <b>17712</b>
19mmx33M	20	Black	699573 <b>71415</b>



## DOUBLE-SIDED FOAM TAPE

DIM WxTxL	PK QTY	BETTER
15x0,8mmx3M	20	076607 <b>17722</b>
6x0,8mmx10M	8	636425 <b>49885</b>
12x0,8mmx10M	8	076607 <b>07953</b>
19x0,8mmx10M	8	636425 <b>65984</b>
25x0,8mmx10M	8	076607 <b>17747</b>

## ANTI-SLIP TAPE

DIM WxL	COLOUR	PK QTY	BETTER	
			NORTH EUROPE	SOUTH EUROPE
18mmx3M	BLACK	2	69957350098	69957349024
	CLEAR	2	69957350100	69957349551
36mmx3M	BLACK	1	69957350097	69957349023
	CLEAR	1	69957350099	69957349150
50mmx33M	BLACK	1	69957349030	69957349030

Anti-slip tape packaging is language specific. **North Europe:** UK, Germany, France, Netherlands, Poland.  
**South Europe:** France, Italy, Spain, Portugal.

## SPEC CHECK

- Clear rolls: for indoor use
- Black rolls: for indoor & outdoor use
- Anti-slip rolls: Applied to floors to help prevent slips & falls. Suitable for use on smooth, slippery surfaces. Not to be used on surfaces that are continuously wet, such as swimming pools; where motorised vehicles operate; where there is a high concentration of oil; on porous materials such as untreated wood



**Dimensions Key:** W = Width, L = Length



**NORTON**



- 220 INTRODUCTION
- 222 HAND PADS
- 226 SLIT ROLLS
- 228 SURFACE BLENDING DISCS & BELTS
- 234 SPEEDLOK® DISCS
- 240 RAPID STRIP DISCS
- 244 FLAP WHEELS
- 246 WHEELS FOR SATINEX MACHINES
- 248 UNITIZED WHEELS
- 252 CONVOLUTE WHEELS
- 258 FLOOR PADS
- 260 HIGH STRENGTH DISCS

**BearTex®**  
NON-WOVEN ABRASIVES

BearTex® surface finishing products are made of a non-woven nylon web, impregnated with abrasive grain and resin. A variety of abrasives, grit sizes, backing materials and product shapes allow the user an extensive and superior product offering of blend and light finishing products for metal and non-ferrous materials.

## UNDERSTANDING THE PRODUCT

Flat stock  
Aluminium oxide  
Very fine

F

2

5

04

MARKETING CAP CODE FAMILY	TYPE OF MATERIAL	GRAIN	GRADE	INTERNAL DIFFERENTIATION
Flat stock	F	0 - No grain	0 - No grit	Consecutive numbers used for internal differentiation
Utilized/Unified	U	1 - A/O white	1 - Extra coarse	
Rapid strip	R	<b>2 - A/O brown</b>	2 - Coarse	
Surface conditioning/ Blending	S	4 - S/C	3 - Medium	
Convolute	C	5 - Garnet	4 - Fine	
Floor maintenance	JF		<b>5 - Very fine</b>	
			6 - Ultra fine	
			7 - Super fine	
			8 - Micro fine	

## ABRASIVE TYPES

**BEARTEX®** products are manufactured utilising either silicon carbide or aluminium oxide abrasive grain. These are the same high quality abrasives used in Norton's world famous coated abrasive products.

**SILICON CARBIDE** is a hard, sharp, brittle abrasive grain which tends to break down under pressure. Therefore silicon carbide items are sharper, tend to cut faster and produce finer scratch patterns on most surfaces.

**ALUMINIUM OXIDE** is a tough, blocky abrasive which does not tend to break down. Aluminium oxide is more durable than silicon carbide and tends to last longer, produce less discolouration on aluminium, and be more aggressive on certain applications such as hardened steel parts.

## GRIT SIZE

The 'grit' refers to the particle size of the abrasive grain that is impregnated into the nylon web during manufacture. Use of large particles result in a BearTex® product that acts more aggressively and produces a coarse surface finish. Small size particles result in a BearTex® product that produces fine surface finishes.

## DENSITY

The 'density' refers to the number of fibres which have been compressed onto the nylon web material. Most BearTex® products are made in a single density designed to meet the requirements of the intended application. However, several wheel items offer two densities to provide a broader range of finishing results.

Under identical conditions, 'Hard' density wheels cut faster, last longer and produce finer finishes than medium density wheels. 'Medium' density wheels offer greater conformability and less tendency to load the workface.

## BOND TYPES

Waterproof resins are used throughout the manufacture of BearTex® web material to bond the nylon fibres together and to firmly anchor the abrasive grains throughout the web.

## DIFFERENTIATION IN THE RANGE

Norton offers the industry a wide selection of non-woven abrasives to meet every customer requirement. The range is classified into 3 quality-tiers by product shape (Best/ Better/ Good) to help you choose the right stock item for your specific application.

BEST	The premium quality to provide optimum performances on the most demanding applications	GOOD	Standard quality to offer a good compromise between cost & performance levels for general applications
BETTER	High value abrasive solutions		

For further information please go to the Technical Information Section at the back of this catalogue.

# HAND PADS

BearTex® surface finishing products are made of a non-woven nylon web impregnated with abrasive grain and resin. A variety of abrasives, grit sizes and backing materials give the user an extensive and superior product offering.

## APPLICATIONS & MARKETS

- Light cleaning
- Polishing
- Fine finishing
- Keying primer/clear coat
- Stainless steel
- Rust removal
- Defuzzing wood



## PERFORATED HAND PADS

### FEATURES

- Perforations
- Flexible
- Gentle action
- Non-loading
- Non-rusting
- Resilient construction
- Easy to cut to desired size

### BENEFITS

- Perforations allow for smooth, shred free split to create 2 smaller easy to use 115mm x 150mm pads
- Conforms to contours of work surface & provides a uniform finish
- Easily removes burrs without affecting the dimension of the workpiece
- Continual supply of new cutting edges
- No contamination of the workpiece
- Long life, waterproof & solvent resistant



## FINISHANDFINE

### FEATURES

- Ultra fine grade
- Highly flexible
- Perforated
- Supplied in a dispenser box

### BENEFITS

- Ideal for automatic primer keying & keying of clear cut
- For highly sensitive surfaces
- For clean & easy tearing
- For easy access & storage



BEST

**BETTER**

## HAND PADS

### FEATURES

- Flexible
- Gentle action
- Non-loading
- Non-rusting
- Resilient construction
- Easy to cut to desired size

### BENEFITS

- Conforms to contours of work surface & provides a uniform finish
- Easily removes burrs without affecting the dimension of the workpiece
- Continual supply of new cutting edges
- No contamination of the workpiece
- Long life, waterproof & solvent resistant



**GOOD**

## PLAIN DISCS

### FEATURES

- Flexible
- Gentle action
- Non-loading
- Non-rusting
- Resilient construction
- Easy to cut to desired size

### BENEFITS

- Conforms to contours of work surface & provides a uniform finish
- Easily removes burrs without affecting the dimension of the workpiece
- Continual supply of new cutting edges
- No contamination of the workpiece
- Long life, waterproof & solvent resistant



## PRODUCT SELECTION

GRADE	COLOUR	SUBSTRATE & MARKETS	APPLICATION	FEATURES, BENEFITS & ADVANTAGE
<b>HAND PADS</b>				
White Cleaning	White	Nearly all substrates i.e. composites, metals, plastic	Light cleaning & polishing	Highly conformable, tear resistant
Extra Cut	Dark tan	Stainless steel - all metals	Finishing stainless steel, weld blueing removal	Most aggressive hand pad, very durable, good lifetime
Medium S	Black	Stainless steel - all metals	Cleaning, finishing stainless steel – manufacturing food processing equipment	Excellent cut & shiny finish, achieves with just a few strokes light stock removal & a good finish
Medium	Maroon	Metals	Deburring, rust & coating removal	Strong & open construction, resistant to loading, good lifetime
Very Fine	Maroon	AAM – car body repair – wood working/plastic	Automotive primer keying – defuzzing of wood/patina removal, antiquing/ denibbing plastic	Comfortable innovative pad design ensures excellent finish & lifetime
Gen. Purpose Clean & Scour	Green	Metals, plastic	General purpose cleaning	Durable nylon web, low cost, advanced performance at an economical price
Micro Fine	Gold	AAM car body repair	Keying of clear coat on sensible lacquer	Conformable innovative pad design ensures excellent finish & lifetime
Ultra Fine S	Grey	AAM car body repair/metal/ plastics	Keying of clear coat/ finishing of metal/ deburring plastics	Produces the finest & highest quality finish
<b>PERFORATED HAND PADS</b>				
Very Fine A Long Life	Maroon	AAM/metal/wood	Automotive primer keying/ metal finishing, defuzzing wood	Very efficient – perforated for clean & easy tearing, ideal size to access hard to reach areas, robust enough to be used under hoods & in door jams without tearing
Ultra Fine S	Grey	AAM/metal/plastic	Keying of clear coat/ final finishing	Provides excellent colour prep. adhesion, can be used wet or dry with prepping compounds
<b>FINISHANDFINE</b>				
Very Fine A	Maroon	AAM/plumbing	Denibbing lacquers – primer keying/metal finishing, defuzzing wood	These pads are perforated & come in a dispenser, they are highly conformable & can be used wet or dry
Ultra Fine S	Grey	AAM	Cleaning finishing keying car panels, paint blending	

## SPEC CHECK

- BearTex® products are non-metallic, won't rust & are an ideal replacement for steel wool

# HAND PADS

				<b>PERFOR. HAND PADS</b>	<b>FINISH AND FINE</b>	<b>HAND PADS</b>	<b>PLAIN DISCS</b>
<b>DIM WxH(mm)</b>	<b>CAP CODE</b>	<b>GRADE</b>	<b>PK QTY</b>	<b>BEST</b>		<b>BETTER</b>	<b>GOOD</b>
100x200	F2529	Very Fine A	60*		63642557495		
	F4605	Ultra Fine S	60*		63642557496		
150x230	F2504	Very Fine A Long Life	60*	66261018293			
	F4801	Ultra Fine	60*	66261018294			
	F0001	White Cleaning	60*			66261018283	
	F2302	Extra Cut	40*			63642557491	
	F2300	Medium	60*			63642557493	
	F2401	Fine	60*			66261018286	
	F2504	Very Fine A Long Life	60*			66261018287	
	F2503	Gen. Purpose Clean & Scour	60*			66261018288	
	F2801	Micro Fine A	60*			63642557277	
	F4804	Ultra Fine S	60*			63642557494	
230x280	F2504	Very Fine A Long Life	35			66261018291	
	F4801	Ultra Fine	35			66261018292	
∅ 150	F2520	Very Fine	10				63642557497
	F4802	Ultra Fine	10				63642557498

\*Supplied in packs of 20



**Dimensions Key:** DIM = Dimensions, W = Width, H = Height, ∅ = Diameter

# SLIT ROLLS

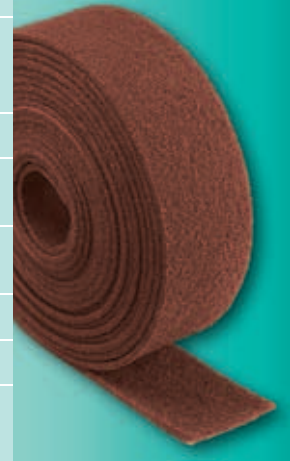
Rolls may be cut for use in jitterbug sanding or on hand sanding applications. Rolls have the durability for indexing machine applications.

## APPLICATIONS & MARKETS

- Light deburring
- Cleaning
- Finishing
- Applying decorative finishes



BEST	SLIT ROLLS	
	FEATURES	BENEFITS
	■ High quality aluminium oxide or silicon carbide grain	■ Long product life
	■ Uniform web construction	■ Controlled aggressiveness
	■ Can be cut to exact sizes needed	■ Economical; minimal waste
	■ Flexible	■ Conforms to contours of work surface & provides a uniform finish
	■ Non-loading	■ Continual supply of new cutting edges
■ Non-rusting	■ No contamination of the workpiece	
■ Resilient construction	■ Long life	
	■ Waterproof & solvent resistant	



## SPEC CHECK

- The “Very Fine A Long Life” quality features material with a high edge durability. This material is ideal for demanding applications. It provides a fast cut & long life even on irregular surfaces & sharp edges, combined with an excellent finish
- The “Very Fine A” quality is ideal where End Users need to have different sizes & shapes to be torn off the rolls, as this can be done easily & quickly by hand. This material is most conformable & provides a similar finish as “Very Fine A Long Life”

# SLIT ROLLS

				<b>SLIT ROLLS</b>	
DIM WxL	CAP CODE	GRADE	PK QTY	BEST	
100mmx10M	F2300	Medium	2	63642557499	
	F2401	Fine	2	66261018300	
	F2520	Very Fine A	2	63642557738	
	F2504	Very Fine A Long Life	2	66261018301	
	F2801	Micro Fine A	2	63642557500	
	F4802	Ultra Fine	2	63642557501	
115mmx10M	F2520	Very Fine A	2	63642557739	
	F2504	Very Fine A Long Life	2	63642587694	
	F4802	Ultra Fine	2	63642557503	
125mm x10M	F2300	Medium	2	63642557504	
	F2401	Fine	2	66261018307	
	F2520	Very Fine A	2	63642557740	
	F2504	Very Fine A Long Life	2	66261018308	
	F2801	Micro Fine A	2	63642557505	
	F4802	Ultra Fine	2	63642557506	
150mmx10M	F2300	Medium	2	63642557507	
	F2504	Very Fine A Long Life	2	66261018312	
	F4802	Ultra Fine	2	63642557508	



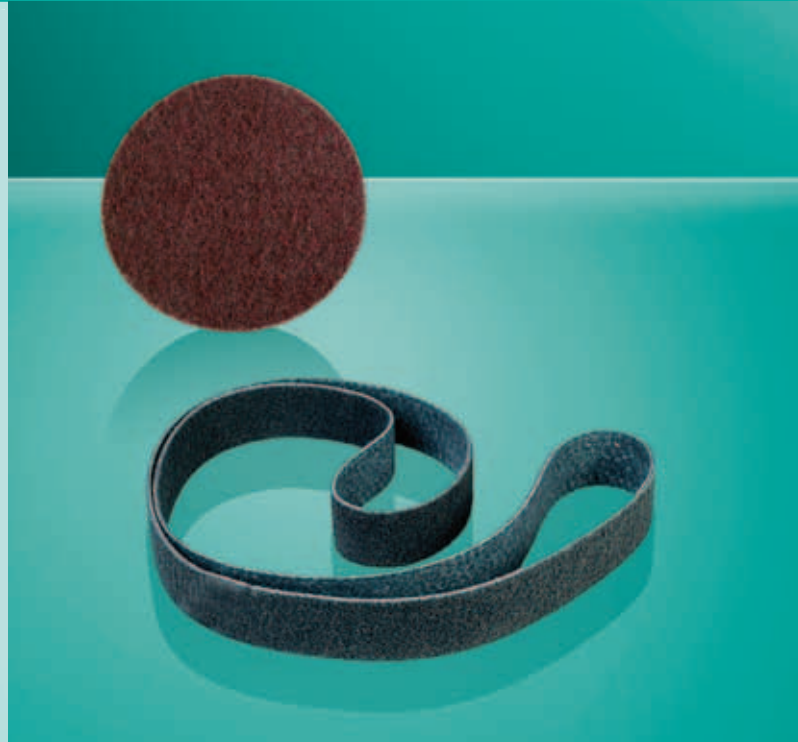
**Dimensions Key:** DIM = Dimensions, W = Width, L = Length

# SURFACE BLENDING DISCS & BELTS

With the two new grades Extra Coarse and Super Fine, the new extended range is suitable for all finishing applications. Finer grits are ideal for pre-polishing. They are highly resistant to loading and clogging. They are very user friendly which reduces the risk of damaging the workpiece.

## APPLICATIONS & MARKETS

- Removing surface defects
- Removing light edge burrs, parting lines or flashing
- Removing rust, oxides, corrosion, paints & scale
- Cleaning moulds
- Blending mill marks, tool marks, uneven edges & coated abrasive finish



## SURFACE BLENDING BELTS LOW STRETCH

### FEATURES

- Durable fibre construction
- Very sharp abrasive grain
- Rigid, low stretch backing

### BENEFITS

- Long lasting
- High, continuous cut rate
- Excellent performance on hard materials (steels, nickel, alloys etc.)



*abrasive*

## SURFACE BLENDING DISCS EXTRA COARSE

### FEATURES

- Durable construction
- Very sharp abrasive grain
- Rigid, low stretch backing

### BENEFITS

- Long lasting
- High, continuous cut rate
- Excellent performance on hard materials (steels, nickel, alloys etc.)



BEST

BETTER

## SURFACE BLENDING DISCS

### FEATURES

- Open structure
- High abrasive content
- Flexible backing

### BENEFITS

- Resists loading on softer materials
- Fast initial cut rate
- Conformable



## SUPERFLEX BELTS MADE-TO-ORDER

- Superflex is a new flexible material that can be compared to a J-weight cloth backing. It has market leading flexibility which gives excellent performance on contoured surfaces. Five grades are available Extra Coarse, Coarse, Medium, Fine & Very Fine. The belts are thicker with a conformable cushioned action giving faster & finer smear resistant finishes. This is a great product for sequential finishing. For further details of this made-to-order product, please contact your local Sales or Customer Service Representative.



## PRODUCT SELECTION

### WHICH GRIT SHOULD I CHOOSE?

Extra Coarse	Provides longest cutting life & highest aggressiveness to quickly achieve an even surface ready for finer finishing. Ideal for descaling & removing heavy rust & oxides
Coarse	Ideal where a less coarse finish or increased flexibility is required & an aggressive cut is necessary
Heavy Medium	A fast cutting grade for many applications where a finish slightly coarser than a standard medium is acceptable. Combines an excellent cut & finish ratio
Medium	Achieves a good medium finish. Best choice for controlled results on softer materials or expensive alloys
Very Fine	Provides an excellent & uniform finish, ideal choice for fine finishing & pre-coat finishing
Super Fine	The finest & most flexible surface conditioning for decorative finishes & excellent surfaces on soft & hard metals, ideal for pre-polishing

### APPLICATION GUIDE

APPLICATION	BELTS-MOS (m/s)*	DISCS-DIA (mm)	DISCS MOS/RPM
Decorative finishing	2,5 - 14	115	13000
Wood sanding	6 - 14	125	10000
Deburring	25 - 33	150	8000
Cleaning	10 - 25	178	6000
Oxide removal	23 - 33		

Testing may show that a lower/faster speed is desirable for specific operations

\*Maximum operation speed is 33m/s

## SPEC CHECK

- Coarse removes 60-120 grit grindlines - for light deburring
- Medium removes 120-180 grit grindlines - for cleaning & rust removal
- Very Fine removes 180-320 grit grindlines - for finishing, polishing & paint preparation

## SURFACE BLENDING BELTS LOW STRETCH

DIM WxL(mm)	CAP CODE	GRADE	PK QTY	BEST
13x305	S2213	A Coarse	10	662611 <b>98671</b>
	S2313	A Medium	10	662610 <b>16180</b>
	S2513	A Very Fine	10	662611 <b>98642</b>
13x457	S2213	A Coarse	10	662610 <b>21089</b>
	S2313	A Medium	10	662610 <b>21084</b>
	S2513	A Very Fine	10	662611 <b>98645</b>
13x520	S2313	A Medium	10	662611 <b>98659</b>
13x610	S2213	A Coarse	10	662610 <b>21091</b>
	S2313	A Medium	10	662610 <b>21092</b>
	S2513	A Very Fine	10	662610 <b>21094</b>
20x457	S2313	A Medium	10	662610 <b>21096</b>
	S2513	A Very Fine	10	662610 <b>21098</b>
20x520	S2313	A Medium	10	662611 <b>98660</b>
25x610	S2213	A Coarse	10	662611 <b>98667</b>
	S2313	A Medium	10	662611 <b>98662</b>
	S2513	A Very Fine	10	662611 <b>98649</b>
30x533	S2213	A Coarse	10	636425 <b>93016</b>
	S2313	A Medium	10	662611 <b>98664</b>
	S2513	A Very Fine	10	699573 <b>87893</b>
50x450	S2112	Extra Coarse	10	662610 <b>21114</b>
	S2213	A Coarse	10	636425 <b>94874</b>
	S2313	A Medium	10	662610 <b>21099</b>
	S2513	A Very Fine	10	662611 <b>98652</b>
50x800	S2313	A Medium	10	662610 <b>21101</b>
50x1500	S2213	A Coarse	10	662610 <b>21111</b>
	S2313	A Medium	10	662610 <b>21112</b>
50x2000	S2213	A Coarse	10	662610 <b>21103</b>
	S2313	A Medium	10	662610 <b>21104</b>
	S2513	A Very Fine	10	662610 <b>21107</b>
50x2500	S2213	A Coarse	10	662611 <b>98669</b>
	S2313	A Medium	10	662611 <b>98666</b>
	S2513	A Very Fine	10	662611 <b>98653</b>
75x2000	S2213	A Coarse	10	662610 <b>21108</b>
	S2313	A Medium	10	662610 <b>21109</b>
	S2513	A Very Fine	10	662610 <b>21110</b>
75x3000	S2213	A Coarse	10	662611 <b>98670</b>
	S2313	A Medium	10	662610 <b>21113</b>
100x2500	S2513	A Very Fine	5	662610 <b>21115</b>
100x3500	S2313	A Medium	5	662610 <b>21116</b>

Dimensions Key: DIM = Dimensions, W = Width, L = Length

## SURFACE BLENDING DISCS



DIA (mm)	CAP CODE	GRADE	PK QTY	BEST	BETTER
115	S2112	Extra Coarse	20	63642557509	
	S2211	Coarse FB*	20		63642557510
	S2211	Coarse	20		63642557511
	S2313	Medium	20		63642557717
	S2513	Very Fine	20		63642557718
	S4713	Super Fine	20		63642557719
125	S2112	Extra Coarse	20	63642557720	
	S2211	Coarse FB*	20		63642557721
	S2211	Coarse	20		63642557722
	S2313	Medium	20		63642557723
	S2513	Very Fine	20		63642557724
	S4713	Super Fine	20		63642557725
150	S2112	Extra Coarse	10	63642557726	
	S2211	Coarse FB*	10		63642557727
	S2211	Coarse	10		63642557728
	S2313	Medium	10		63642557729
	S2513	Very Fine	10		63642557730
	S4713	Super Fine	10		63642557731
178	S2112	Extra Coarse	10	63642557732	
	S2211	Coarse FB*	10		63642557733
	S2211	Coarse	10		63642557734
	S2313	Medium	10		63642557735
	S2513	Very Fine	10		63642557736
	S4713	Super Fine	10		63642557737

\*Fibre-backed

## BACK-UP PADS NORGRIP



DIA (mm)	ATTACHMENT	DENSITY	PK QTY	
115	M14	Medium	1	69957382846
	5/8	Medium	1	63642595937
125	M14	Medium	1	69957382841
	5/8	Medium	1	63642595938
	5/16	Medium	1	63642595992
150	M14	Medium	1	69957382843
	5/8	Medium	1	63642595939
	5/16	Medium	1	63642595990
180	M14	Medium	1	69957382844
	5/8	Medium	1	63642595940
200	M14	Medium	1	69957382842
	5/8	Medium	1	63642595941

Dimensions Key: DIA = Diameter



From cleaning and stripping through to final finishing with just one system. Just with one turn, discs can be changed. No slipping, no sticking and always centrally running. Provides the result of comfortable work and less downtime for tool changes.

## APPLICATIONS & MARKETS

- Deburring
- Blending
- Cleaning & corrosion removal



FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ SpeedLok® fastener</li> <li>■ Twist on &amp; twist off in 2-1/2 turns</li> <li>■ 25mm x 75mm TS discs – all metal fasteners</li> </ul>	<ul style="list-style-type: none"> <li>■ Quick, tool-free disc changes allow for more grinding time</li> <li>■ Disc locks securely to back-up pad, but is easily removed</li> <li>■ Mount to the Norton SpeedLok® TS or standard abrasives' quick-change back-up pads</li> </ul>
<ul style="list-style-type: none"> <li>■ 25mm x 75mm TR discs – rubber threaded hubs</li> <li>■ Small disc sizes</li> </ul>	<ul style="list-style-type: none"> <li>■ Mount to Norton TR or 3M Roloc back-up pads</li> <li>■ Discs can access restricted corners &amp; contours</li> </ul>

## SURFACE BLENDING

### FEATURES

- Open structure
- High abrasive content
- Flexible backing

### BENEFITS

- Resists loading on softer materials (aluminium, gaskets etc.)
- Fast initial cut rate
- Conformable



## WHITE FELT

### FEATURES

- Ideal for use with polishing compounds
- 50mm x 75mm diameter size available

### BENEFITS

- Achieves spectacular results on a variety of metals such as stainless steel or aluminium



BEST

BEST

## UNITIZED WHEELS TR

Unitized discs are used widely in the preparation of metal surfaces. Excellent for light deburring of flashing & threads, blending alloys, polishing & finishing

### FEATURES

- Easily preformed
- Hold shape well
- Non-metallic

### BENEFITS

- Usable on a wide variety of shapes/contours
- They do not undercut or gouge which limits accidental damage to the component
- No contamination of workpiece



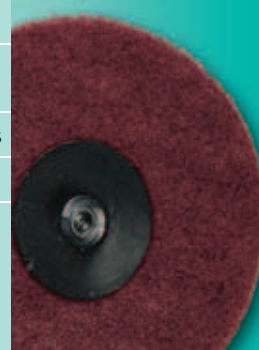
## HIGH STRENGTH DISC TR

### FEATURES

- Premium aluminium oxide grain
- Firm, durable web
- Strong resin binders
- Smear-proof

### BENEFITS

- Clean cutting & long lasting
- High resistance to tearing on burrs & sharp edges
- Highly smear-resistant
- Produces light satin finishes



## RAPID STRIP TR & TR+

### FEATURES

- Open web construction
- Conformable
- Thick, strong, synthetic fibres & extra coarse grit
- New 100mm TR+ discs

### BENEFITS

- Fast cutting & long lasting
- Follow difficult part profiles
- Easy cleaning of uneven surfaces
- Quick cleaning & conditioning of surfaces
- Quick-change replacement; can be used on face & edge



BETTER

## BUFFING

### FEATURES

- Laminated to Lamtuck backing
- Made from soft, flexible material

### BENEFITS

- Extra strength
- Conforms to shapes & contours, providing a uniform finish



# PRODUCT SELECTION

## MAXIMUM TOOL SPEED TABLE (for maximum disc cut rate & life)\*

DIA(mm)	STAINLESS	ALUMINIUM	MID STEEL	TITANIUM	GLASS	COMPOSITES
38	20000	20000	30000	9000	9000	15000
50	15000	15000	20000	7000	7000	10000
75	10000	10000	15000	4500	4500	8000

## APPLICATION GUIDE

APPLICATION	RPM	M/S
Cleaning & upgrade of surface conditions	2000 - 6000	10 - 30
Deburring	5500 - 8000	28 - 40
Cosmetic finish	1000 - 5000	5 - 25
Removal of oxides	3500 - 6500	18 - 33
Grinding & stock removal	12000 - 16000	60 - 80

## SPEED LOK DISCS TR & TS

INDUSTRY	APPLICATION	PRODUCTS
Aerospace maintenance	Removing coatings during maintenance work on fuselage & wings in awkward areas, cleaning weld lines	50mm & 75mm coarse & medium
Marine	Cleaning of hulls, finishing of aluminium casings	50mm & 75mm Rapid Strip & SCM in coarse
Automotive	Accessing hard to reach areas, under the bonnet, door frames etc., removing of stonechip coatings	50mm & 75mm Rapid Strip & SCM in coarse
Composites	Removal of squeezed excessive glue	Unitized & surface blending discs
Wood	Removal of old paint & coatings from wooden surfaces - frames etc.	Rapid Strip & surface blending
Food processing	Surface finishing	Surface blending discs
Architectural steelwork	Cleaning & finishing of weld joints achieving decorative finishes	Surface blending discs, unitized

## ATTACHMENTS/BACK-UP PADS

### TS - Type 2 - SL2



Turn on/turn off system using a metal to metal fixing on pad (TS) with spindle



### TR - Type 3 - SL3



Roll-on/roll off system using a nylon threaded male button on pad (TR) with spindle



\*Please note: The operational speed is governed by application & product size

## SURFACE BLENDING DISCS

DIA (mm)	CAP CODE	GRADE	PK QTY	TR	TS	TS
				BEST		BETTER
				SURFACE BLENDING	SURFACE BLENDING	BUFFING
50	S2106	Extra Coarse	25	63642586817	63642569668	
	S2300	Medium	25	63642556580	63642556559	63642587176
	S2204	Coarse	25	63642556609	63642556608	63642587177
	S2204	Fine	25			63642587175
	S2505	Very Fine	25	63642556575	69957360378	63642587171
	S4704	Super Fine	25	63642585626	63642585670	
75	S2106	Extra Coarse	25	63642586830	63642586820	
	S2300	Medium	25	63642556601	63642556593	63642587180
	S2204	Coarse	25	66261009194	63642519572	63642587181
	S2204	Fine	25			63642587179
	S2505	Very Fine	25	63642556599	63642556591	63642587178
	S4704	Super Fine	25	63642585649	63642585676	

## SPECIALIST TR

DIA (mm)	GRADE	PK QTY	BEST
			WHITE FELT
50	Felt	25	63642587165
75	Felt	25	63642587167



Dimensions Key: DIA = Diameter

## UNITIZED WHEELS TR

DIA (mm)	CAP CODE	GRADE	PK QTY	BEST
50	U2301	2 A Medium	10	63642585684
	U2301	6 A Medium	10	63642585725
	U2401	2 S Fine	10	63642585677
	U2401	4 A Fine	10	63642585679
75	U2301	2 A Medium	10	63642585697
	U2301	6 A Medium	10	63642585726
	U2401	2 S Fine	10	63642585691
	U2401	4 A Fine	10	63642585695

## HIGH STRENGTH DISC TR

DIA (mm)	CAP CODE	GRADE	PK QTY	BEST
50	F2303	Medium	50	63642585924
75	F2506	Very Fine	50	63642585932

## RAPID STRIP TR

DIA (mm)	CAP CODE	GRADE	PK QTY	BEST	BETTER
50	R4101	Coarse	10	63642588173	63642556605
75	R4101	Coarse	10	63642588175	63642556624

## RAPID STRIP TR+

DIA (mm)	CAP CODE	PK QTY	BEST
100	R4101	5	63642585751

Dimensions Key: DIA = Diameter

**BACK-UP PADS TR ATTACHMENT (Type 3 – SL3)**



DIA (mm)	GRADE	PK QTY	RUBBER WITH SPINDLE	PLASTIC HOLDER M14	RUBBER HOLDER M14	ADAPTOR
50	Medium	1	076607 <b>17817</b>			
75	Medium	1	636425 <b>56631</b>		636425 <b>87305</b>	
	Blue	1		636425 <b>57133</b>		
1/4-M14		1				636425 <b>87997</b>

**BACK-UP PADS TS ATTACHMENT (Type 2 – SL2)**



DIA (mm)	DENSITY	PK QTY	RUBBER WITH SPINDLE
50	Medium	1	636425 <b>01157</b>
75	Medium	1	076607 <b>07384</b>

**HOLDERS TR+ ATTACHMENT (Type 4 – SL4)**

DIA (mm)	DENSITY	PK QTY	RUBBER WITH SPINDLE
100	Medium	1	636425 <b>86196</b>

# RAPID STRIP DISCS

The BearTex® rapid strip disc is constructed with thick, strong, synthetic fibres and extra-coarse silicon carbide abrasive. The open web construction of the disc provides fast cutting action with very little loading. Safer than wire bristle tools, Rapid Strip is suitable for use in many industries.

## APPLICATIONS & MARKETS

- Removal of surface rust & residue, corrosion, light weld splatter, dirt, mill scale & other similar surface contaminants
- Paint & epoxy coating removal
- Surface prep before coatings are applied
- Surface prep before welding
- Cleaning & conditioning after welding



BEST

## RAPID STRIP DISCS NORGRIP

FEATURES	BENEFITS
■ Norgrip backing	■ For quick & easy disc changing
■ Open web construction	■ Fast cutting action with very little loading
■ Conformable	■ Easy cleaning of uneven surfaces
■ Thick, strong, synthetic fibres & extra coarse grit	■ Quick cleaning & conditioning of surfaces
■ Used with portable tools	■ Easy & safe to use especially in difficult to reach areas

BETTER

## RAPID STRIP DISCS

FEATURES	BENEFITS
■ Open web construction	■ Fast cutting action with very little loading
■ Conformable	■ Easy cleaning of uneven surfaces
■ Thick, strong, synthetic fibres & extra coarse grit	■ Quick cleaning & conditioning of surfaces
■ Used with portable tools	■ Easy & safe to use especially in difficult to reach areas

FEATURES	BENEFITS
■ 50mm & 70mm discs with SpeedLok® TR fastener	■ Quick, tool-free disc changes allow for more grinding time
■ New 100mm TR+ discs	■ Quick-change replacement; can be used on face & edge

Also available in SpeedLok® discs

# PRODUCT SELECTION

INDUSTRY	APPLICATION	PRODUCTS
<b>RAPID STRIP WHEELS, FIBRE BACKED &amp; DISCS TR PLUS FITTING</b>		
Pharmaceutical industry	Removing weld blueing & oxide on stainless steel	100mm discs
Cast iron	Removing of old gasket material on cylinder heads of diesel engines	50mm Rapid Strip TR & 100mm discs
Automotive	Removing of stonechip coating, paint & rust	100mm discs & TR
Stainless steel fabricators	Weld blending, removing of imperfections, blending spot welds	100/150 & TR/glass fibre backed discs
Stainless steel fabricators	Grain finishing on sheets	Rapid Strip Satinex
<b>RAPID STRIP TR PLUS DISCS</b>		
Automotive/Metalworking	Excellent for removal of rust, undercoating, seam-sealers & stone guards. Can get into hard-to-reach areas like wheel wells & under carriage. Use in trunk beds & door jams. Use to remove oxidation from tyre rims & to remove rust from brake assemblies	Rapid Strip TR Plus discs





### RAPID STRIP DISCS NORGRIP

DIA (mm)	CAP CODE	PK QTY	BEST
115	R4101	5	636425 <b>85706</b>
125	R4101	5	636425 <b>85727</b>
150	R4101	10	636425 <b>85729</b>
178	R4101	5	636425 <b>85730</b>
203	R4101	5	636425 <b>85731</b>

### RAPID STRIP WHEELS STANDARD

DIA (mm)	CAP CODE	PK QTY	BETTER
100	R4101	25	636425 <b>85700</b>
150	R4101	25	636425 <b>85703</b>
200	R4101	25	636425 <b>85704</b>

### RAPID STRIP DISCS DEPRESSED CENTRE

DIA (mm)	CAP CODE	PK QTY	BETTER
115	R4101	5	636425 <b>85732</b>
125	R4101	5	636425 <b>85749</b>
178	R4101	5	636425 <b>85750</b>

### RAPID STRIP DISCS SPINDLE MOUNTED

DIM DIAxTxS(mm)	CAP CODE	PK QTY	BEST	
			STANDARD	LARGE AREA
75x13x6	R4101	10	636425 <b>57741</b>	
75x25x6	R4101	5		636425 <b>57744</b>
100x13x6	R4101	10	636425 <b>57742</b>	
100x25x6	R4101	5		636425 <b>57745</b>
150x13x6	R4101	10	636425 <b>57743</b>	
150x25x6	R4101	5		636425 <b>57746</b>

**Dimensions Key:** DIA = Diameter, T = Thickness, S = Spindle, W = Width, B = Bore

**BACK-UP PADS NORGRIP**



DIA (mm)	ATTACHMENT	DENSITY	PK QTY	
	M14	Medium	1	699573 <b>82846</b>
115	5/8	Medium	1	636425 <b>95937</b>
125	M14	Medium	1	699573 <b>82841</b>
	5/8	Medium	1	636425 <b>95938</b>
	5/16	Medium	1	636425 <b>95992</b>
150	M14	Medium	1	699573 <b>82843</b>
	5/8	Medium	1	636425 <b>95939</b>
	5/16	Medium	1	636425 <b>95990</b>
180	M14	Medium	1	699573 <b>82844</b>
	5/8	Medium	1	636425 <b>95940</b>
200	M14	Medium	1	699573 <b>82842</b>
	5/8	Medium	1	636425 <b>95941</b>

**MANDRELS**

DISCS DIAxWxB(mm)	SPINDLE DIA(mm)	PK QTY	
<150x13x12	6	1	076607 <b>07022</b>
<200x13x12	8	1	076607 <b>07023</b>

# FLAP WHEELS

Available in a wide range of abrasives, grits and densities. The different densities make the products very versatile, ranging from soft cushioning pads ideal for uneven or irregular surfaces, to harder densities for cleaning and finishing metal. Flap wheels are used in many industries from metalworking to woodworking.

## APPLICATIONS & MARKETS

- Cleaning threaded parts
- Removing oxide from printed circuit boards
- De-glossing plastic parts
- Producing uniform finishes on aluminium, brass & stainless steel
- Can be used on automatic & robotic equipment



## FLAP WHEELS

### FEATURES

- Cushioning action
- Constructed using layers of Beartex® with a smear resistant formula
- Available in a wide range of sizes & grades

### BENEFITS

- Ideal for use on contoured surfaces & parts with awkward geometry
- Achieves a consistent & uniform finish with no risk of gouging
- Suitable for a wide range of applications including corrosion removal, cleaning & surface finishing



BEST

# PRODUCT SELECTION

## WHEEL DIRECTIONS/RECOMMENDATIONS

Wheel speed is an important factor, that affects lifetime, rate of cut & finish. Fast wheels give generally a finer finish & act more aggressively, whereas lower speeds result in a coarser finish & are less aggressive for the same wheel density. Testing may show that a faster/slower speed is desirable for specific operations

### AGAINST FEED

Wheel direction  
Shorter scratches  
Rougher finish



Flap wheels/  
brushes can  
be run in either  
direction



### WITH FEED

More uniform  
Longer life  
Longer scratches

## MAXIMUM OPERATING SPEED (RPM)

OUTER DIA (mm)	MAX RPM
200	2500
250	2200
300	1900
350	1600
400	1400
450	1100

## FLANGE MOUNTED FLAP WHEELS

DIM DxWxB(mm)	GRADE	CAP CODE	PK QTY	BETTER FLANGE MOUNTED
200x50x76	Medium A	F2300	1	636425 <b>88131</b>
	Very Fine A	F2504	1	636425 <b>88137</b>
	Very Fine S	F4501	1	636425 <b>88145</b>

## SPINDLE MOUNTED FLAP WHEELS

DIM DxWxB(mm)	GRADE	CAP CODE	PK QTY	BETTER SPINDLE MOUNTED
60x30x6	Fine A	F2401	1	636425 <b>15905</b>
	Fine A interleaved	F2401	1	636425 <b>49640</b>
80x50x6	Fine A	F2401	1	636425 <b>15583</b>
	Extra Cut	F2302	1	636425 <b>86113</b>
	Fine A interleaved	F2401	1	636425 <b>15544</b>
100x50x6	Fine	F2401	1	636425 <b>15903</b>
	Fine A interleaved	F2401	1	636425 <b>15908</b>

Dimensions Key: DIM = Dimensions, D = Diameter, W = Width, B = Bore

# WHEELS FOR SATINEX MACHINES

These versatile wheels are used on portable machines and are compatible with the most commonly used systems in the market. Satinex wheels consist of a core of radially bonded strips of non-woven flaps.

## APPLICATIONS & MARKETS

- Decorative finishing
- Weld blending
- Removing paint
- Removing scales oxide & rust
- For use on wood & stainless steel



## WHEELS SATINEX MACHINES

### FEATURES

- Key way fitting
- Used on portable machines
- Wide range of different grades
- Advanced flap wheel construction

### BENEFITS

- High compatibility with most common systems in the market
- High mobility & flexibility
- From rust removal to a satin finish
- Ensures perfect linear finish for repair & touch-up jobs



BEST

## WHEELS SATINEX MACHINES

TYPE	DIM DxTxB(mm)	CAP CODE	GRADE	PK QTY	BETTER
Satinex	110x100x19	F2200	Coarse	6	63642557218
		F2300	Medium	6	63642557404
		F2400	Fine	6	63642557405
		F2504	Very fine	6	63642557406
Satinex Interleaved	110x100x19	F2200	Coarse	6	63642557407
	110x100x10	F2300	Medium	6	63642557408
Satinex Polyurethane	110x100x19	P2W01	Coarse	6	63642557410
Satinex Rapid Strip	110x100x19	R4101	Extra Coarse	6	63642557184

**Dimensions Key:** DIM = Dimensions, D = Diameter, T = Thickness, B = Bore

# PRODUCT SELECTION

TYPE	INDUSTRY	APPLICATION	PRODUCTS
<b>WHEEL DIRECTIONS/RECOMMENDATIONS</b>			
Flap brushes all densities	Architectural hardware	Finishing brass aluminium & steel, satin finishing	BearTex flap wheels provide a cushioned abrasive action which not only works well on flat areas, but is also ideal for use in finishing operations on uneven surfaces where they need to adjust to the surface & give a uniform finish. When used on most metals, A/O (aluminium oxide) flap wheels will produce a long line scratch pattern with a dull satin, matt type finish. The S/C (silicon carbide) flap wheels will produce a long line scratch finish with a semi-bright, matt type finish
	Cast iron	Removing of old gasket material on cylinder heads of diesel engines	
	Automotive	Removing of stonechip coating, paint & rust	
	Stainless steel fabricators	Weld blending, removing of imperfections, blending spot welds	
	Stainless steel fabricators	Grain finishing on sheets	
Satinex wheels	Architectural hardware	Decorative finishing	Satinex Fine and Very Fine or bright linear finishes
	Wood	Removing paint & smoothing surface	Satinex Interleaved Grit 80
	Food processing	Weld blending, satin finishing	Satinex Very Fine - Polyurethane
	Stainless steel fabricators	Surface finishing removing of imperfections	Satinex Medium A
	Metal	Cleaning removing scales, oxide & rust	Satinex Rapid Strip
Wide faced brushes	Strip metal	Cleaning - splatter removal, finishing	Non-woven brushes different densities/ plus interleaved with coated abrasives
	Wood chip board	Defuzzing	Non-woven brushes different densities/ plus interleaved with coated abrasives



BearTex® unitized wheels are made from compressed and bonded layers of non-woven abrasive. Applications include deburring, cleaning composites, and sharp edge removal.

Unitized wheels produce excellent finishes on nearly all surfaces, although are ideally suited for use on harder materials such as titanium or stainless steel.

**APPLICATIONS & MARKETS**

- Surface preparation, cleaning & finishing
- Turbine blades & aerospace maintenance
- Medical instruments
- Cleaning weld lines & moulds
- Tooling industry



BEST	UNITIZED WHEELS	
	FEATURES	BENEFITS
	■ Easily preformed	■ Usable on a wide variety of shapes/contours
	■ Holds shape well	■ Less wheel dressing
	■ Non-metallic	■ No contamination of workpiece
	■ Uniform construction	■ Extra long life. Maintains part tolerance, prevents cutting or gouging
■ Smear resistant formula	■ Excellent smear free finish	

# PRODUCT SELECTION

APPLICATION AREA	SPECIFIC APPLICATION	SPECIFICATION	RECOMMENDED SPEEDS
<b>UNITIZED WHEELS</b>			
Cleaning: oxidation removal, coatings, contaminations	Welding preparation, removal of weld blueing, scale removal, gasket removal, removing excessive bonding agents after curing, cleaning steel castings	NEX 4AFINE, 6AF 8AMED	10-26ms
Deburring: surface, edge, ID_OD & thread deburring	Deburring flashings, threaded parts, stamped parts, turbine blades, machined out parts, deburr aluminium extrusions, deburring of pipes in the oil & gas industry	NEX 2SFINE, 4AFINE	10-26ms
Deburring: OD & thread deburring	Deburring of pipe threads in oil & gas industry	NEX 7 SXC	10-26ms
Blending: removal of parting lines, grindline conditioning	Parting line removal, blending surface defects & forge marks	NEX 8MED, 8ACOARSE	30-40ms
Finishing: final finishing, satin finishing	Turbine blade edge radius, medical implants (stainless steel & alloys), figurines, jewellery, finishing saw blades	NEX 6AF, 8AM	2,5-15ms
Polishing: polishing surface defects, preparation before buffing	Polishing precision metal pieces, welds etc.	NEX 2SFINE, 8AFINE	2,5-15ms

## UNITIZED WHEEL NAMING SCHEME

NEX - 8AC	Product Line	Density	Abrasive Type	Grit Size
Name of product line: NEX or series 10	NEX	2 3 4 5 6 7 <b>8</b> 9	A = Aluminium Oxide S = Silicon Carbide	F = Fine M = Medium <b>C = Coarse</b> XC = Extra Coarse
Naming scheme: similar to convolute wheels				

## SPEC CHECK

- Unitized wheels can be run in either direction



<b>UNITIZED WHEELS</b>					
DIM DxTxB(mm)	CAP CODE	GRADE	PK QTY	BEST	
50x3x6	U2301	NEX 8AM	20	636425 <b>85828</b>	
50x6x6	U2201	NEX-8AC	20	636425 <b>85761</b>	
	U2301	NEX-2AM	20	636425 <b>85754</b>	
	U2301	NEX-8AM	20	636425 <b>85758</b>	
	U2401	NEX 4 AFINE	20	636425 <b>85755</b>	
	U2401	NEX-6AF	20	636425 <b>85757</b>	
	U4401	NEX-2SF	20	636425 <b>85756</b>	
75x 3x6	U2301	NEX 8AM	20	636425 <b>85831</b>	
75x6x6	U2201	NEX-8AC	10	636425 <b>85776</b>	
	U2301	NEX-2AM	10	636425 <b>85763</b>	
	U2301	NEX-8AM	10	636425 <b>85774</b>	
	U2401	NEX-4AF	10	636425 <b>85766</b>	
	U2401	NEX-6AF	10	636425 <b>85771</b>	
	U4401	NEX-2SF	10	636425 <b>85768</b>	
150x6x13	U2301	NEX 2AM	10	662610 <b>19412</b>	
	U2301	NEX 6AMED	10	662610 <b>19414</b>	
	U4401	NEX 2SF	10	662610 <b>19416</b>	
150x13x13	U2301	NEX 2AM	5	636425 <b>85818</b>	
	U2301	NEX 8AMED	5	636425 <b>85824</b>	
	U2401	NEX 4 AFINE	5	636425 <b>85815</b>	
	U4401	NEX 2SF	5	636425 <b>85812</b>	
150x25x13	U2301	NEX-2AM	5	699573 <b>50267</b>	
	U2401	NEX 4 AFINE	5	699573 <b>50269</b>	
	U4401	NEX-2SF	5	699573 <b>50272</b>	
150 x 25 x 25	U2301	NEX-2AM	5	636425 <b>85789</b>	
	U2401	NEX 4 AFINE	5	636425 <b>85792</b>	
	U4401	NEX-2SF	5	636425 <b>85795</b>	
200 x 25 x 25	U2301	NEX-2AM	5	636425 <b>85796</b>	
	U4401	NEX-2SF	5	636425 <b>85797</b>	

<b>MANDRELS</b>					
SPINDLE DIA(mm)	TYPE	FOR WHEELS TxB(mm)	SPECIFICATION	PK QTY	
6	A	<6x6	M 3-6	1	636425 <b>86234</b>
6	B	6-12x3-6	M3 L 6	1	636425 <b>86236</b>
6	C	12-25x13	M 22 EXL 6	1	636425 <b>86239</b>

**Dimensions Key:** DIM = Dimensions, D = Diameter, T = Thickness, W = Width, B = Bore



# CONVOLUTE WHEELS

Formed by wrapping and bonding web material impregnated with abrasive grain and resin around a centre core. Convolute wheels offer a wide range of utility from heavy burr removal to cleaning rust and oxides.

## APPLICATIONS & MARKETS

- Burr & flash removal
- Reducing surface roughness
- Blending welds on stainless steel
- Blending scratch patterns
- Weld polishing
- Removing rust & oxides
- Applying decorative finishes



## LONG LIFE

### FEATURES

- Smear & heat resistant formula
- Waterproof non-metallic
- Dense web construction (9 density)
- More open web construction (6 density)

### BENEFITS

- Use dry, wet or with oil
- No contamination of workpiece
- Long life & consistent high quality results
- Starting point for deburring, blending, polishing & finishing
- Smear proof & cool cutting on light deburring applications



## DBS B442-XHD

### FEATURES

- Closed mesh, very dense product
- Yields faster cut rates while producing finer finishes

### BENEFITS

- Superior performance
- Long life



For more information, please refer to the BearTex® Catalogue

**BETTER**

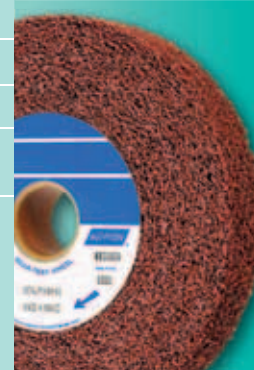
## DMA METAL FINISHING

### FEATURES

- Strongest resin binders
- Dense, very durable web
- Premium, medium grit aluminium oxide grain
- Uniform grain dispersion & coating

### BENEFITS

- Resilient long life construction
- Can be used for light deburring applications
- Generates uniform distinct satin & antique finishes
- Cleans & conditions without gouging or changing dimensions of workpiece



## DSS SURFACE FINISHING

### FEATURES

- Stronger web compared to Clean/Finish wheels

### BENEFITS

- More aggressive cutting action & more durability than Clean/Finish wheels
- Ideal for rust & paint removal, coarse decorative finishes & blending



## SERIES 1000

### FEATURES

- Smear & heat resistant formula
- Waterproof non-metallic
- Dense web construction (9 density)
- More open web construction (6 density)

### BENEFITS

- Use dry, wet or with oil
- No contamination of workpiece
- Long life & consistent high quality results
- Starting point for deburring, blending, polishing & finishing
- Smear proof & cool cutting on light deburring applications



## SERIES 2000

### FEATURES

- Improved resin bond system
- Conformable & flexible

### BENEFITS

- Consistent, high quality results – smear-proof
- Eliminates “over cut” or gouging on titanium products like prostheses & aerospace turbine blades
- Cool cutting where heat generation must be kept to a minimum



**BETTER**

## SERIES 4000

### FEATURES

- Improved resin bond system
- High quality synthetic web
- Smear & heat resistant
- Premium abrasive grain
- Waterproof

### BENEFITS

- Free cutting – use both wet & dry
- More consistent finish. Better performance
- Long life for heavy deburring, edge breaking & removing parting lines on exotic metals



For more information, please refer to the BearTex® Catalogue



# PRODUCT SELECTION

APPLICATION AREA	SPECIFIC APPLICATION	SPECIFICATION	RECOMMENDED SPEEDS
Cleaning	General purpose cleaning, removing rust oxidation, corrosion, discolouration, flashings, pipe threads, machine parts, plastic moulded parts	16 AM - 18 AM	11-32 ms/ 2,200 - 6,000 SFPM
Deburring	Removing medium to heavy burrs – deburring die cast/smoothing radii on metal parts/ blending coated abrasive scratch pattern	1 - 9 SF	28-41 ms/ 5,500 - 8,000 SFPM
Blending	Smoothing parting lines, polishing welds, machine parts	1 - 7 SF	28-41 ms/ 5,500 - 8,000 SFPM
Finishing	Satin finish, cosmetic finish, brush finish	1 - 7 SF	2-15 ms/ 500 - 3,000 SFPM
Pressure	Light to medium pressure is recommended for most operations Avoid excessive pressure which may result in wheel deformation & damage to the work surface		
Feed speed	Feed speeds directly affect the number of pieces completed over a given period of time Slow feed speed reduces the number of workpieces completed, while producing a shorter scratch pattern Slow feed speed allows for longer dwell time & 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		
Oscillation	Oscillation may be used to break up scratch lines & produce a more uniform finish Additionally, an increase in cut may be experienced A general starting point for oscillation is 3/8" amplitude at 200 cycles per minute		
Lubricants	Lubricants, such as water, water soluble oil & straight oil, will decrease the heat generated while running, improve the luster & improve the surface finish The higher the viscosity of the lubricant, the lower the surface finish (RMS value) produced		

## SPEC CHECK

- Testing may show that a slower or faster speed is desirable for specific operations. Never exceed the maximum RPM rating of the wheel

CONVOLUTE WHEELS						<b>LONG LIFE</b>	<b>DBS B442</b>	<b>DSS SURF. FINISH</b>	<b>SERIES 1000</b>	<b>SERIES 2000</b>	<b>SERIES 4000</b>
DIM DxWxH (mm)	REF CODE	GRADE	DTY	ABR TYPE	PK QTY	BEST	BETTER				
150x12x25	D17	Fine	7	SIC	4	66261018628					
	D17	Medium	7	ALOX	4	66261018857					
	D17	Medium	7	SIC	4	69957397880					
	D18	Fine	8	SIC	4	66261018773					
	D18	Medium	8	ALOX	4	66261018789					
	D49	Fine	9	SIC	4						66261004021
	DBS	Fine	-	SIC	4		66261054908				
150x25x25	D16	Fine	6	ALOX	3				66261055204		
	D16	Medium	6	ALOX	3				66261055205		
	D16	Medium	6	SIC	3				66261055202		
	D17	Fine	7	SIC	3				66261055223		
	D19	Medium	9	SIC	3				66261055371		
	D48	Fine	8	SIC	3						66261008658
	D48	Medium	8	ALOX	3						66261004208
	DBS	Fine	-	SIC	4		69957352335				
	DSS	Medium	-	SIC	4			66261058550			
150x50x25	D17	Fine	7	ALOX	2				66261008897		
	D17	Medium	7	ALOX	3				66261055229		
	DSS	Medium	-	SIC	2			66261058560			
200x25x76	D16	Fine	6	SIC	3	66261019693					
	D16	Medium	6	SIC	3				66261055208		
	D17	Fine	7	ALOX	3				69957352389		
	D17	Fine	7	SIC	3	66261018639			69957394795		
	D17	Medium	7	ALOX	3				66261055232		
	D17	Medium	7	SIC	3	69957394610					
	D18	Fine	8	SIC	3	66261018775					
	D18	Medium	8	ALOX	3	66261018855					
	D18	Medium	8	SIC	3	66261018673					
	D19	Fine	9	SIC	3	66261018641					
	D19	Fine	9	SIC	3				66261008886		
	D19	Medium	9	SIC	3	66261018997					
	D28	Fine	8	SIC	3					66261013094	
	D48	Fine	8	SIC	3						66261004123
D48	Medium	8	ALOX	3						66261004165	

**Dimensions Key:** DIM = Dimensions, D = Diameter, W = Width, H = Height, ABR = Abrasive Type, DTY = Density

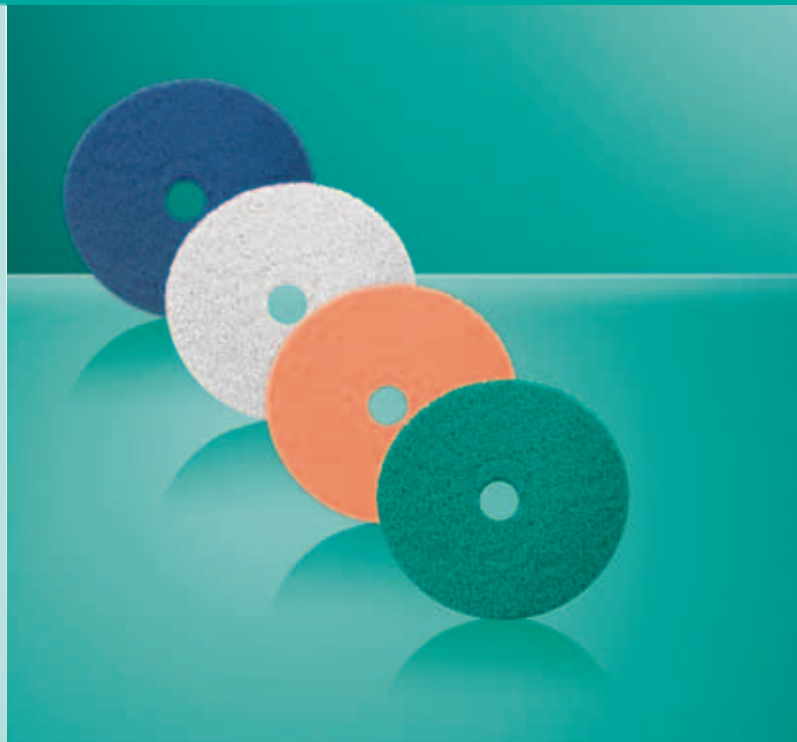
**CONVOLUTE WHEELS (CONTINUED)**

						<b>LONG LIFE</b>	<b>DBS B442</b>	<b>DSS SURF. FINISH</b>	<b>SERIES 1000</b>	<b>SERIES 2000</b>	<b>SERIES 4000</b>
<b>DIM DxWxH (mm)</b>	<b>REF CODE</b>	<b>GRADE</b>	<b>DTY</b>	<b>ABR TYPE</b>	<b>PK QTY</b>	<b>BEST</b>	<b>BETTER</b>				
200x50x76	D16	Medium	6	SIC	2				66261055211		
	D17	Fine	7	ALOX	2				66261009252		
	D17	Fine	7	SIC	2				66261055233		
	D17	Fine	9	SIC	2	66261018877					
	D17	Medium	7	ALOX	2				66261055235		
	D18	Fine	7	SIC	2	66261019629					
	D19	Fine	8	SIC	2	66261018987					
	D19	Fine	9	SIC	2				66261055276		
	DBS	Fine	-	SIC	2		66261058718				
250x12x127	D17	Fine	7	SIC	4	69957352396					
	D18	Fine	8	SIC	4	66261019221					
	D18	Medium	8	ALOX	4	69957352395					
	D18	Medium	9	SIC	4	66261019005					
	D19	Fine	9	SIC	4	66261019222					
250x25x76	D28	Fine	8	SIC	2				69957352334		
250x25x127	D18	Medium	8	ALOX	4	69957352402					
250x50x127	D28	Fine	8	SIC	1				66261013058		
300x50x125	DSS	Coarse	-	SIC	1		66261058574				
305x50x127	D28	Fine	8	SIC	1				66261013060		

BearTex® offers a wide range of floor pads from stripping right through to mirror gloss finishing. For general scrubbing and cleaning applications BearTex® offers two pads that will remove surface dirt and grime to get the floor back in shape before recoating or buffing.

## APPLICATIONS & MARKETS

- Cleaning & polishing floors
- Factory & utility maintenance
- Janitorial applications



## PRODUCT SELECTION

Black Super Strip		A thick pad that is aggressive, durable, & consistent, for wet stripping applications
Green Super Scrub		A heavy duty wet scrubbing pad that will remove the toughest scuff marks in heavily soiled traffic areas
Blue Super Clean		For general duty scrubbing or heavy spray cleaning jobs
Beige		For buffing & polishing, good for light traffic areas
Red Buffer		Generally used where a high gloss finish is desired when dry or spray buffing. It can also be used for light cleaning applications
White Super Gloss		A non-abrasive polishing/buffing pad, used dry or with a fine mist to yield a mirror gloss shine

## BUFFING & POLISHING

- Designed to produce consistent performance & assure you a mirror gloss shine

## STANDARD FLOOR PADS

DIA (mm)	CAP CODE	GRADE	PK QTY	BETTER
406	JF175	White Super Gloss	5	63642585892
	JF176	Red Buffer	5	63642585890
	JF177	Beige	5	63642585873
	JF178	Black Super Strip	5	63642585841
	JF180	Green Super Scrub	5	63642585877
	JF181	Blue Super Clean	5	63642585868

## THIN LINE FLOOR PADS

DIA (mm)	CAP CODE	GRADE	PK QTY	BETTER
406	JU014	Black	10	63642585895
	JF068	Green	10	63642585899
	JF040	Beige	10	63642585903
	JF175	White	10	63642585904

All products come with an 89mm removable centrepiece



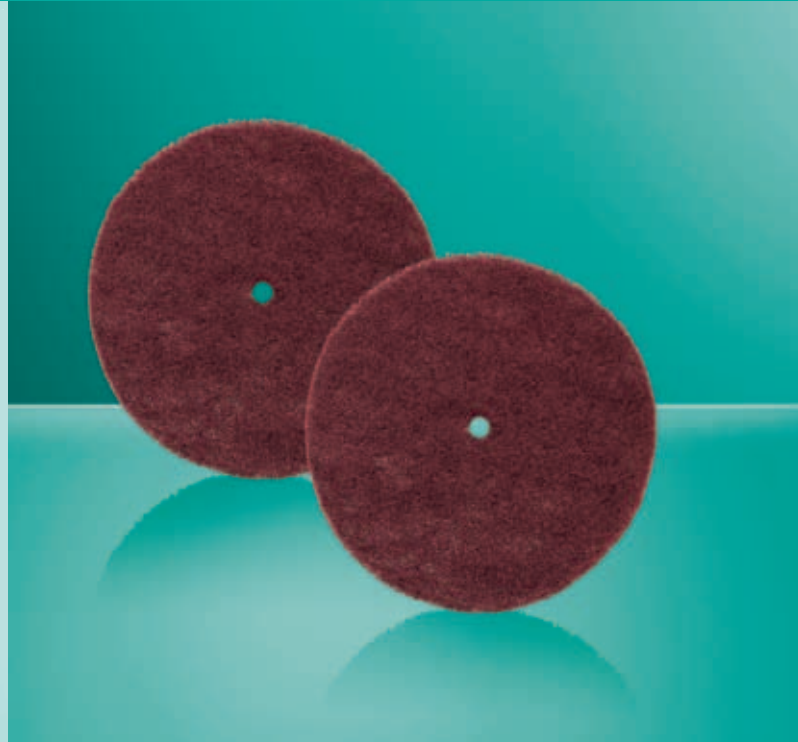
Dimensions Key: DIA = Diameter

# HIGH STRENGTH DISCS

Made of a strong nylon web impregnated with abrasive grain and resin, BearTex® high strength discs are designed to be used for demanding applications on a wide range of substrates.

## APPLICATIONS & MARKETS

- Rust/oxide or coating removal
- Satin finishing of stainless steel cutlery
- Root finishing of titanium turbine blades
- Finishing of stainless steel & aluminium components
- Cleaning moulds & castings



BEST	HIGH STRENGTH DISCS	
	FEATURES	BENEFITS
	■ Durable	■ Good product life
	■ Tear resistant	■ Helps avoid gouging or chunking the workpiece
■ Flexible	■ Follow surface contours ■ Can be used for chamfering	



HIGH STRENGTH DISCS				BEST
DIM DxB(mm)	CAP CODE	GRADE	PK QTY	
150x12	F2303	Medium	70	63642585909
	F2506	Very Fine	70	63642585912
200x12	F2303	Medium	50	63642585915
	F2506	Very Fine	50	63642585918

**Dimensions Key:** DIM = Dimensions, D = Diameter, B = Bore



**NORTON**

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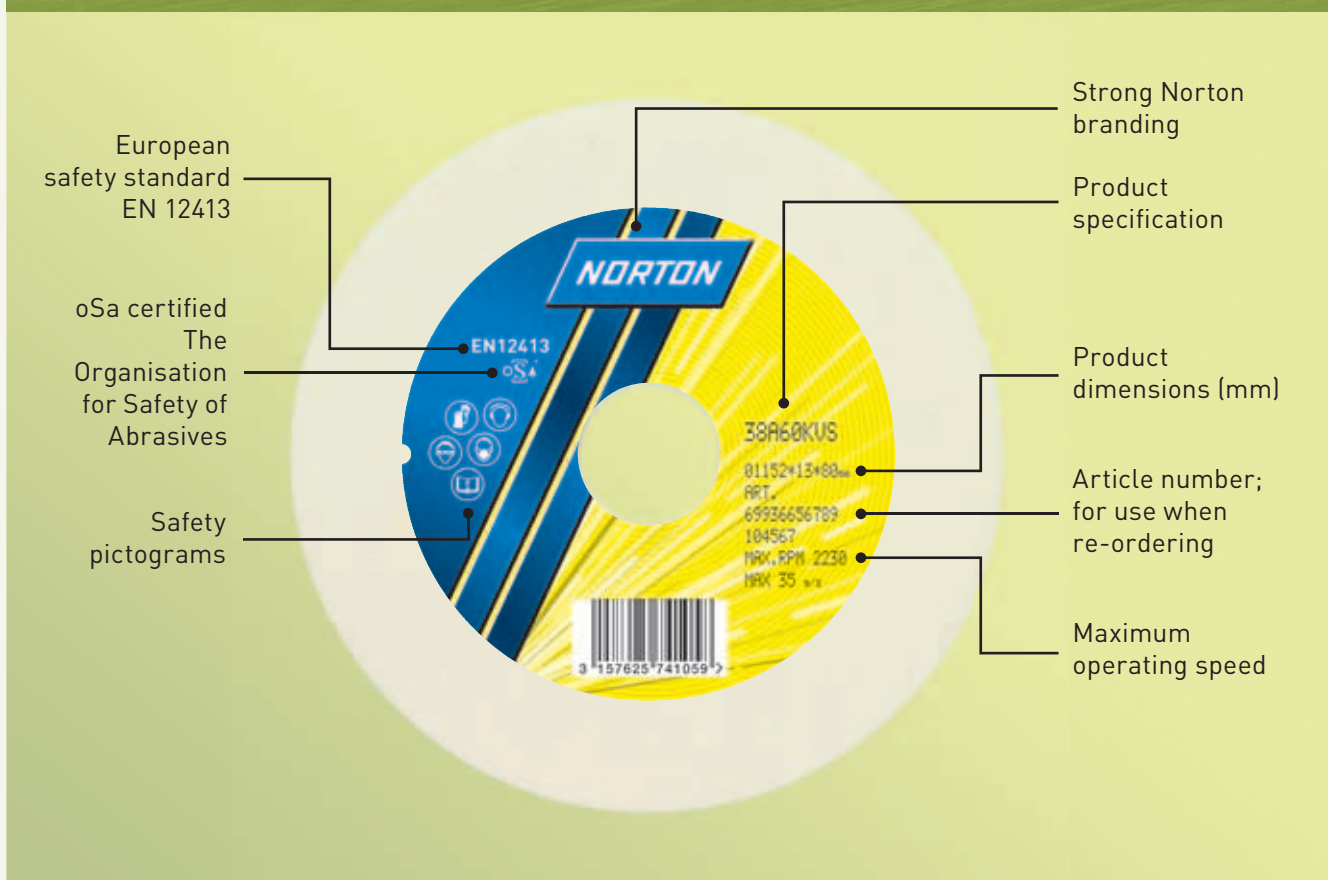
# Bonded Abrasives

From standard aluminum oxide bench wheels to premium ceramic abrasive surface grinding wheels, Norton offers high performance abrasive solutions that can maximise productivity in virtually all industrial applications.

The extensive product range is designed to meet all your precision grinding and roughing application needs, with all the most appropriate abrasive specifications, including grinding wheels, segments, mounted points, dressing sticks and sharpening stones.

Norton, the industry's most comprehensive Bonded abrasive product line.

## UNDERSTANDING THE PRODUCT



## ABRASIVE TYPES

**CERAMIC ALUMINIUM OXIDE** Norton SG® is a patented ceramic form of aluminium oxide that is harder and sharper than conventional abrasive grains. The ceramic grain has a unique microcrystalline structure and when used in a grinding operation this microstructure becomes self-sharpening. This leads to a reduction in the need for wheel dressing and a considerably cooler cutting action.

**ALUMINIUM OXIDE** Generally recommended for grinding materials of high tensile strength, such as stainless steel and tool steels, but it can also be used on some high tensile aluminium and bronze alloys. It is manufactured in varying qualities.

**SILICON CARBIDE** Harder than aluminium oxide with a very sharp abrasive grain shape. It is recommended for grinding relatively soft materials such as aluminium or cast iron as well as grinding extremely hard materials such as cemented carbide.

**ZIRCONIA ALUMINA** For use in rough grinding applications where high stock removal is required. Associated with high tech resin bonds.

## GRIT SIZE

The number in the grinding wheel, marking designating grit size, represents the approximate number of openings per linear inch in the final screen size used to size the grain. The following rules should be followed:

### USE COARSE GRIT

- For soft, ductile, stringy materials such as soft steel or aluminium
- For rapid stock removal
- Where finish is not important
- For large areas of contact

### USE FINE GRIT

- For hard, brittle materials such as hard tool steels, cemented carbides & glass
- For fine finishes
- For small areas of contact
- For holding small corner radii

## WHEEL GRADE

The grade indicates the relative holding power of the bond, which holds abrasive grains in a wheel. This is represented in the specification by letters running through the alphabet from hardest to softest. The following rules should be followed with regard to grade:

### USE SOFT GRADE

- For hard materials such as hard tool steels & carbides
- For large areas of contact
- For rapid stock removal

### USE HARD GRADE

- For soft materials
- For small or narrow areas on contact
- For longer wheel life

## COMMON RANGE OF GRADES

E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
					CYLINDRICAL/CENTRELESS												
SURFACE GRINDING																	
					ID GRINDING												
				TOOL GRINDING													
					THREAD GRINDING												
	NON-REINFORCED ORGANIC																
											REINFORCED ORGANIC						

## BOND TYPES-VITRIFIED

Vitrified bonds are the most common precision grinding bond. Porosity and strength of the wheels made with this bond give high stock removal along with their rigidity helping to attain high precision. Not affected by water, acid, oils or ordinary temperature variations. The most common vitrified bonds are:

<b>V</b>	V is the original high temperature vitrified bond, usually used where tougher acting wheels are required
<b>VS</b>	VS is a very versatile, low temperature, high performance vitrified bond system used in almost all applications but predominately for tool room, centreless, cylindrical, & surface grinding
<b>VTECH</b>	Low temperature, very technical bond, used with conventional abrasives & recommended for high tech applications to maximise performance & dressing parameters
<b>VX</b>	VX bond provides improved corner/form holding for most applications – it is the first choice bond for our premium abrasives
<b>VXP</b>	Induced porosity VX bond suitable for large contact areas & surface grinding

## UNDERSTANDING THE SPECIFICATION

ABRASIVE			GRIT SIZE			GRADE			STRUCTURE		BOND
ALUMINIUM OXIDE	SILICON CARBIDE	CERAMIC ALUMINIUM OXIDE	COARSE	MEDIUM	FINE	SOFT	MEDIUM	HARD	CLOSED	OPEN	
A	37C	SGB	12	30	80	E	I	Q	5	10	VS
19A	39C	3SG	16	36	90	F	J	R		11	VXP
25A		5SG	20	46	100	G	K	S		12	VXPM
38A		1TGP	24	54	120	H	L	T			VTECH
40A				60			M				
57A				70			N				
86A							O				
IPA				60				EH		17	VTX
								XH		20	
		ES5		60	80		J	L			VX
							K				

## BOND TYPES-ORGANIC

These bonds are used in two types of wheels. Firstly, wheels used on portable or fixed machines for the rapid removal of metal. Secondly, cutting-off wheels either un-reinforced or reinforced, for use on portable or fixed machines. The most common organic bonds are:

### SNAGGING WHEELS & CUPS

<b>B &amp; B3</b>	Foundry wheels: multi-purpose bond that gives satisfactory results on most applications
<b>B28</b>	Foundry wheels: high level bond suitable for most technical applications requiring high powered machines

### CUTTING-OFF WHEELS

<b>BF1</b>	Specific bond ensuring the best quality of cut in dry or wet conditions
<b>BF3</b>	New generation bond assuring the best wheel life in dry cutting operations; versatile & long wheel life. Ideal for heavy duty operations
<b>B24</b>	New generation bond used on silicon carbide cut-off wheels that gives the best performance & the ultimate cut quality on non-ferrous metals in wet conditions
<b>B25</b>	Standard multi-purpose bond that offers durability & freeness of cut in a wide variety of materials & applications. Can also be used in wet cutting on softer grades
<b>B26</b>	New generation bond used on aluminium oxide cut-off wheels that gives the best performance & the ultimate cut quality on ferrous metals in wet conditions
<b>B65</b>	Traditional bond gives good performance & long wheel life in dry cutting conditions

## DIFFERENTIATION IN THE RANGE

Norton offers the industry's widest selection of sharpening and grinding wheels to meet every customer requirement. The range is classified into 3 tiers (Best/Better/Good) to help you choose the right product for your specific application according to the type of abrasive used.

<b>INNOVATION BEST</b>	Using unparalleled abrasive technology, & extremely high performance, high concentration ceramic aluminium oxide abrasive, Norton provides innovative products dedicated to improving productivity in all industrial applications	<b>BETTER</b>	The SGB abrasive is used in the majority of Norton's Better products. SGB contains a medium concentration of SG ceramic aluminium oxide abrasive. SG is harder & sharper than conventional abrasive grains & gives excellent cutting capability on a wide variety of materials
<b>BEST</b>	High concentrations of the well renowned SG abrasive are used to supply Norton's high performance abrasive grains, 5SG & 3SG. These products meet the demands of the most discerning user giving high stock removal rates & long product life for lower operating costs	<b>GOOD</b>	Standard aluminium oxide grains, both blended & pure, give highly durable solutions that produce good performance levels

For further information please go to the Technical Information Section at the back of this catalogue.

## CYLINDRICAL GRINDING

Cylindrical grinding includes all outside grinding of round work, even when the finished product is not always a true cylinder. Requirements in cylindrical grinding vary from fast stock removal to ultra smooth (mirror) finishes. Cylindrical wheels are used extensively in the automotive, aerospace, shipbuilding, engine manufacture, turbine manufacture and bearing industry, as well as general shops and tool rooms



## SURFACE GRINDING

The term surface grinding is used to describe the grinding of flat surfaces in which the wheel moves past the workpiece in a flat plane, or vice versa. Surface grinding applications range from heavy rapid stock removal, to precision contour grinding



## INTERNAL GRINDING

Internal grinding refers to the grinding of bores or holes and is probably one of the most difficult types of grinding. Internal grinding applications range from very rapid stock removal to more controlled processes capable of generating sizes and concentricity measured in microns



## TOOL & CUTTER

Tool room grinding refers to the maintenance and repair of the cutting tools used in manufacturing operations. Wheels of all sizes and shapes are used in tool and cutter applications. Most wheels used are vitrified, in grit sizes 36 to 220, and in grades H through to N

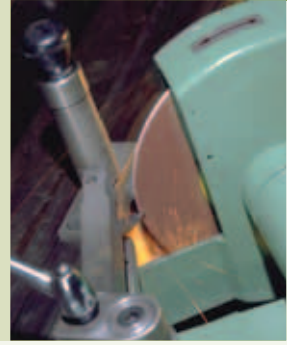


## APPLICATION GUIDE

	CYLINDRICAL	INTERNAL	SURFACE	TOOL & CUTTER
Aluminium	39C 46 KVS	39C 80 IV	39C 46 KVS	
			38A 54 IVXP	
Brass/Bronze	39C 60 KVS	39C 80 IV	39C 46 KVS	
			38A 54 IVXP	
Cast iron	57A 60 LVX	39C 80 MVS	IPX 60 XHVTX	
	39C 60 KVS	ES5 80 K VX		
Ceramic (green)	39C 60 KVS	39C 80 IVS	39C 60 JVS	
Ceramic (fired)	39C 100 KVS			
Chrome plate	SGB 80 IVXP	ES5 80 J VX	SGB 60 K VX	
	38A 80 KVS		86A 70 GVXP	
Crankshaft (regrind)	57A 60 MVS			
Glass (cutting)			39C 60 KVS	
Glass (polishing)			A150 MVS	
Aerospace alloys: Nimonic, Inconel, Hastalloy	SGB 80 IVXP	ES5 60 K VX	IPX 60 XHVTX	
	38A 80 KVS	SGB 60 K VX	3SG 60 J VX	
Plastics	39C 80 JVS	ES5 60 K VX	IPX 60 XHVTX	
	SGB 80 IVXP			
Plasma spray	39C 60 KVS	39C 80 IV	39C 46 KVS	
	39C 100 KVS		38A 54 IVXP	
Rubber	IPX 60 EHVTX			
Spray metal (Cr. Ni)	39C 60 KVS	39C 80 IV	39C 60 KVS	
	39C 100 KVS	ES5 80 K VX	38A 54 IVXP	
Steel – soft (Up to 45Rc)	57A 60 LVS	3SG 60 K VX	86A 54 KVS	
	SGB 60 LVX	38A 60 LVS	38A 46 KVS	
Steel high carbon high chrome content – [46 - 56 Rc] D2, D3 etc.	3SG 60 K VX	5SG 60 K VX	IPX 60 XHVTX	
	SGB 60 K VX	3SG 60 K VX	3SG 60 J VX	
Steel hardened (Over 56 Rc)	3SG 60 K VX	ES5 80 K VX	1TGP 60 HVX	ES5 80 J VX
	SGB 60 K VX	5SG 60 K VX	IPX 60 EHVTX	5SG 46 K VX
		3SG 60 K VX	3SG 60 IVXP	SGB 60 J VX
Stainless steel non-magnetic (Austenitic)	39C 60 K VX	39C 60 J VX	39C 46 KVS	
			38A 54 IVXP	
Stainless steel magnetic (Martensitic)	SGB 60 LVX	ES5 60 K VX	SGB 60 K VX	
	57A 60 LVX	SGB 60 K VX	86A 60 IV TECH	
Stellite	38A 60 LVS	SGB 60 K VX	SGB 60 HVXP	
Titanium	39C 60 K VX	39C 60 K VX	39C 60 K VX	
High speed steel	3SG 60 K VX	ES5 60 K VX	1TGP 60 HVX	3SG 60 K VX
	SGB 60 K VX	SGB 60 J VX	IPX 60 EHVTX	SGB 60 J VX
	38A 60 JVS	86A 60 KV TECH	3SG 60 IVXP	38A 60 JV
Tungsten carbide	39C 80 JVS		39C 80 IVS	39C 80 JVS

## SAW SHARPENING

Saw sharpening refers to the maintenance and repair of sawblades. Vitrified flat wheels and cups are used in grit sizes 54 to 60. Resin treatment reinforces the wheel and helps reduce wheel face deformation



## SAW SHARPENING

MATERIAL	TYPE OF TOOTH	OPERATION	RESIN	WHEEL GRADE	REFERENCE	RECOMMEND. SPEC
High quality steel	Large	All	None	Soft	MTVS	19A 60 MVS MTVS
Standard quality steel	Small	All	None	Hard	MDVS	19A 60 OVS MDVS
Standard quality steel	Double cut	Finishing	1mm resin coated on one side	Soft	T6	38A 60 MVS T6
Treated steel	Swage	Roughing		Medium	M6	86A 54 KVS M6
		Finishing		Soft	T6	38A 60 MVS T6
Stellite tipped	Stellite tipped	Finishing		Soft	T6	38A 60 MVS T6
		Roughing		Medium	M6	86A 54 KVS M6
		Truing	Hard	D6	86A 54 OVS D6	



Norton vitrified grinding wheels have set the standard for generations – leading the way with technological improvements to maximise performance and productivity.

## APPLICATIONS & MARKETS

- Surface grinding
- Tool & cutter grinding
- Sharpening
- Internal grinding
- Cylindrical grinding



## 1TGP

■ ■ ■ Type 01

### FEATURES

- High performance SG<sup>®</sup> ceramic aluminium oxide abrasive
- Harder & sharper than conventional abrasive grains
- Unique, self sharpening, microcrystalline structure
- Elongated grain shape

### BENEFITS

- Blend of premium TG grain with pink alumina
- Extremely high removal rate & wheel life
- Effective when productivity is the primary concern
- Suitable for medium to high power & stiff machines



## IPA VORTEX™ TECHNOLOGY

■ ■ ■ Type 01

### FEATURES

- High performance engineered alumina grain
- High porosity & permeability for maximum coolant diffusion
- Optimal grain spacing for improved chip clearance & reduced friction

### BENEFITS

- Very high metal removal rates, resulting in reduced cycle times
- Lower total cost per hour
- Increase wheel life
- Consistent grinding performance
- Extremely cool cutting action promoting burn free results

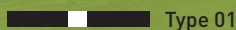


INNOVATION  
BEST

**INNOVATION**

**BEST**

**ES5**



Type 01



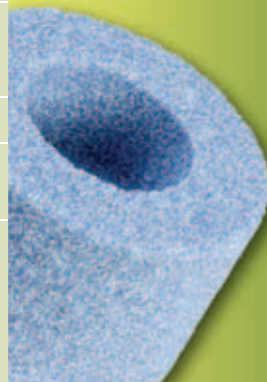
Type 05

**FEATURES**

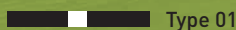
- High performance SG<sup>®</sup> ceramic aluminium oxide abrasive
- Exploded sintered grain
- Self-fracturing grain with very sharp edges
- Flaky grain shape

**BENEFITS**

- Very high concentration of ceramic ES grain
- High removal rate & extended wheel life
- Ultimate cutting capability
- Exceptional sharpness for work under very low pressure
- Primarily used in ID grinding



**5SG<sup>®</sup>**



Type 01

**FEATURES**

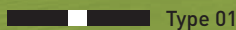
- Very high concentration of SG<sup>®</sup> ceramic aluminum oxide abrasive

**BENEFITS**

- Ultimate cutting capability
- High removal rate & extended wheel life
- Perfect for technical applications where grinding parameters can be adjusted to optimise performance



**3SG<sup>®</sup>**



Type 01

**FEATURES**

- High concentration of SG<sup>®</sup> ceramic aluminum oxide abrasive
- Unique, self sharpening, microcrystalline structure

**BENEFITS**

- Very good cutting capability
- High removal rate & extended wheel life
- Suitable for very hard steels



**BEST**

BETTER

## SGB®



Type 01



Type 05

## FEATURES

- Medium concentration of SG® ceramic aluminum oxide
- Harder & sharper than conventional abrasive grains

## BENEFITS

- Good cutting capability
- Suitable for low to medium power machines
- Very versatile on a wide variety of steels



## 38A



Type 01



Type 05

## FEATURES

- High purity white aluminium oxide abrasive
- Friable

## BENEFITS

- Cool & burn free cutting
- Ideal for heat-sensitive applications with light to moderate feed rates



## 86A



Type 01



Type 05

## FEATURES

- Highly refined pink aluminium oxide abrasive
- Tougher abrasive than pure white aluminium oxide
- Contains a small portion of chromium oxide

## BENEFITS

- Very versatile
- Reduced dress frequency



## 19A



Type 01

## FEATURES

- A blend of A & 38A abrasives
- Primarily used in saw grinding applications

## BENEFITS

- Very versatile. For use on a wide variety of steels
- Good yield, good removal rate
- Good balance between cut rate & form holding ability



## 57A



Type 01

## FEATURES

- Semi-pure brown fused aluminium oxide abrasive
- High durability

## BENEFITS

- For use on steel & steel alloys
- Versatile, durable, & free cutting
- Economical
- Ideal for general purpose applications



GOOD



# STRAIGHT WHEELS

DIM DIAxTxB (mm)	P (mm)	F (mm)	SHAPE	MOS (M/S)	PK QTY	INNOVATION		BETTER	GOOD		
						BEST	BEST				
						Type 01            Type 05					
10x10x4			01	45	10	ES5 80 JVX	66253050152				
13x13x4			01	45	10	ES5 60 LVX	66253050120				
13x13x4,76	6	6	05	45	10	ES5 60 K VX	66253049906				
16x16x6			01	45	10	ES5 80 JVX	66253050153		38A 60 LVS	66253050359	
	10	8	05	45	10	ES5 60 LVX	66253049919				
20x20x6			01	45	10				38A 60 LVS	69936641129	
	13	10	05	45	10	ES5 80 JVX	66253049935	SGB 60 K VX	69936681793		
20x20x6,35	10	10	05	45	10	ES5 60 K VX	66253049908				
25x25x6,35	13	12	05	45	10	ES5 80 IVX	66253049890		38A 60 LVS	69936621516	
25x25x8	13	12	05	45	10	ES5 60 LVX	66253049913				
	13	10	05	45	10	ES5 80 JVX	66253049943	SGB 60 K VX	69936681795		
32x20x10	16	10	05	45	10			SGB 60 JVX	69936641074		
32x25x8	13	10	05	45	10	ES5 60 JVX	66253049945				
32x30x10	18	12	05	45	10			SGB 60 K VX	69936681798		
32x32x9,53	16	16	05	45	10	ES5 80 IVX	66253049912				
32x32x10	16	16	05	45	10			SGB 60 JVX	69936676291	38A 60 LVS	69936675118
40x25x9,53	20	12	05	45	10	ES5 60 K VX	66253049903				
40x25x10	16	12	05	45	10	ES5 80 K VX	66253049922				
40x32x10	20	16	05	45	10	ES5 60 LVX	66253049940				
40x40x10	16	20	05	45	10	ES5 60 K VX	66253049916				
50x6x6			01	45	10				38A 60 NVS	69936675122	
50x32x13	30	16	05	45	10	ES5 60 LVX	66253049938				
50x40x10	25	20	05	45	10				86A 60 KVTECH	66253049914	
50x40x12,7	25	20	05	45	10	ES5 60 K VX	66253049889		38A 60 LVS	69936621569	
50x40x13	25	20	05	45	10	ES5 80 IVX	66253049949				
50x40x16	25	20	05	45	10	ES5 60 K VX	66253049926		86A 60 KVTECH	66253049929	
63x10x20			01	45	10				38A 60 NVS	66253050376	
63x40x12,7	32	20	05	45	10	ES5 80 IVX	66253049910		38A 60 LVS	69936621565	
65x50x16	25	25	05	45	10			SGB 60 JVX	69936676211		
76x32x20	42	16	05	45	10	ES5 60 JVX	66253049931				
80x10x32			01	45	10				38A 60 LVS	66253050241	
100x6x32			01	45	2				38A 60 LVS	66253050244	
100x10x32			01	45	2	3SG 60 K VX	66253050246		38A 60 LVS	66253050404	
100x13x32			01	45	2			SGB 60 K VX	66253049862	38A 60 LVS	66253050409
100x16x32			01	45	2	3SG 46 K VX	66253050283				
100x20x32			01	45	2				38A 46 KVS	66253054532	
			01	45	2				38A 60 KVS	66253051062	
			01	45	2				38A 60 LVS	66253050413	
125x6x32			01	45	2	3SG 60 LVX	66253054862		38A 60 LVS	66253050440	
			01	45	2				38A 60 NVS	69936675721	
125x8x32			01	45	2				38A 60 LVS	66253050443	

All wheels with diameters 100mm-200mm and a 32mm bore are supplied with plastic bushes to reduce the bore size to 20mm. For a full range of plastic bushes please refer to the Technical Information Section at the back of this catalogue.

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore, P = Recess Diameter, F = Recess Depth

## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	BEST		BETTER		GOOD	
	 Type 01			 Type 01F					
125x10x32	01	45	2					38A 46 JVS	662530 <b>50441</b>
	01	45	2					38A 60 KVS	662530 <b>51063</b>
	01	45	2					38A 60 LVS	699366 <b>75731</b>
	01	45	2					38A 80 LVS	662530 <b>50254</b>
	01	45	2					38A 120 JVS	662530 <b>50449</b>
125x13x32	01	45	2	3SG 60 JVX	662530 <b>50290</b>			38A 100 JVS	699366 <b>75880</b>
125x16x32	01	45	2					38A 60 MVS	662530 <b>50237</b>
125x20x32	01	45	2	3SG 60 JVX	662530 <b>50255</b>	SGB 60 LVX	662530 <b>50286</b>	38A 60 KVS	662530 <b>50620</b>
	01	45	2					38A 60 LVS	699366 <b>75736</b>
150x2x32	01	45	6					38A 80 NVS	699366 <b>77254</b>
150x3,2x32	01	63	6					19A 60 MVS MTVS	699366 <b>75941</b>
150x4x20	01	45	6					38A 60 LVS	699366 <b>75591</b>
	01	45	6					38A 80 NVS	699366 <b>76720</b>
	01	45	6					38A 100 MVS	699366 <b>40219</b>
150x4x30	01	63	6	3SG 80 NVX	699366 <b>78980</b>			38A 80 NVS	699366 <b>39730</b>
150x4x32	01	63	6					19A 60 MVS MTVS	699366 <b>74920</b>
	01	63	6					19A 60 OVS MDVS	699366 <b>75946</b>
150x6x20	01F	45	6					86A 80 OVS	699366 <b>86760</b>
150x6x32	01	45	2	3SG 60 LVX	662530 <b>55040</b>	SGB 80 LVX	662530 <b>49867</b>	38A 80 NVS	699366 <b>41572</b>
	01	45	2	3SG 80 LVX	662530 <b>54873</b>			38A 120 JVS	699366 <b>75746</b>
	01	45	2					38A 80 KVS	662530 <b>51068</b>
	01F	63	6					19A 60 MVS MTVS	699366 <b>75964</b>
	01F	63	6					19A 60 OVS MDVS	699366 <b>75963</b>
150x6x38	01	45	2			SGB 60 KVX	662530 <b>49900</b>		
150x8x20	01F	45	6					86A 80 OVS	699366 <b>86743</b>
150x8x32	01	45	2	3SG 60 JVX	662530 <b>55041</b>			38A 60 LVS	699366 <b>75743</b>
	01	45	2					38A 80 MVS	662530 <b>50388</b>
	01	45	2					38A 120 JVS	699366 <b>75748</b>
	01F	63	6	3SG 80 NVX	662530 <b>52706</b>			38A 60 MVS T6	699366 <b>58071</b>
	01F	63	6					19A 60 NVS MTVS	662530 <b>51097</b>
150x10x32	01	45	2	5SG 60 KVX	699366 <b>40331</b>	SGB 60 KVX	662530 <b>49871</b>	38A 46 KVS	662530 <b>51072</b>
	01	45	2	3SG 60 LVX	662530 <b>50280</b>	SGB 100 JVX	662530 <b>49894</b>	38A 46 MVS	662530 <b>50261</b>
	01	45	2					38A 60 JVS	699366 <b>74921</b>
	01	45	2					38A 60 KVS	662530 <b>51070</b>
	01	45	2					38A 60 LVS	699366 <b>75744</b>
	01	45	2					38A 60 MVS	699366 <b>41112</b>
	01	45	2					38A 80 KVS	662530 <b>51071</b>
	01	45	2					38A 80 MVS	662530 <b>50373</b>
	01F	63	6					19A 60 OVS	662530 <b>50201</b>
	01	45	2					38A 100 MVS	662530 <b>50371</b>
	01	45	2					38A 120 JVS	699366 <b>75749</b>

All wheels with diameters 100mm-200mm and a 32mm bore are supplied with plastic bushes to reduce the bore size to 20mm. For a full range of plastic bushes please refer to the Technical Information Section at the back of this catalogue.

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

## STRAIGHT WHEELS (CONTINUED)



DIM DIAXTB(mm)	SHAPE	MOS (M/S)	PK QTY	INNOVATION		BETTER	GOOD		
				BEST	BEST				
Type 01									
150x13x32	01	45	2	5SG 60 K VX	662530 <b>54864</b>		38A 46 HVS	699366 <b>75753</b>	
	01	45	2	3SG 46 HVX	662530 <b>54863</b>		38A 46 LVS	699366 <b>75754</b>	
	01	45	2	3SG 60 LVX	662530 <b>50142</b>		38A 60 IVS	699366 <b>75756</b>	
	01	45	2				38A 60 NVS	699366 <b>75758</b>	
	01	45	2				38A 80 LVS	699366 <b>75759</b>	
	01	45	2				38A 120 JVS	699366 <b>75760</b>	
150x16x32	01	45	2	5SG 60 K VX	662530 <b>54866</b>		38A 46 HVS	699366 <b>75761</b>	
	01	45	2	3SG 60 H12VXP	699366 <b>77177</b>		38A 46 LVS	699366 <b>75763</b>	
	01	45	2	3SG 60 LVX	662530 <b>50367</b>		38A 46 NVS	699366 <b>75762</b>	
	01	45	2				38A 60 LVS	699366 <b>75764</b>	
	01	45	2				38A 80 LVS	699366 <b>75767</b>	
	01	45	2				86A 46 G12VXP	662530 <b>50296</b>	
150x20x32	01	45	2	5SG 60 K VX	699366 <b>40816</b>	SGB 60 K VX	662530 <b>49874</b>	38A 46 KVS	662530 <b>51064</b>
	01	45	2	3SG 60 K VX	662530 <b>50155</b>	SGB 60 MVX	662530 <b>50169</b>	38A 46 MVS	662530 <b>50372</b>
	01	45	2			SGB 100 JVX	662530 <b>49895</b>	38A 60 KVS	662530 <b>51065</b>
	01	45	2					38A 60 LVS	699366 <b>41391</b>
	01	45	2					38A 60 NVS	699366 <b>41392</b>
	01	45	2					38A 80 KVS	662530 <b>51067</b>
	01	45	2					38A 80 LVS	699366 <b>39416</b>
	01	45	2					38A 100 JVS	662435 <b>70493</b>
150x25x32	01	45	2					38A 60 KVS	662530 <b>50452</b>
	01	45	2					38A 60 MVS	662530 <b>50381</b>
175x4x51	01	63	6					19A 60 MVS MTVS	662530 <b>52709</b>
175x6x51	01	63	6					19A 60 MVS MTVS	699366 <b>75980</b>
175x8x51	01	45	2					38A 60 LVS	699366 <b>75786</b>
180x6x32	01	45	2			SGB 120 JVX	699366 <b>38720</b>	38A 60 LVS	699366 <b>75784</b>
	01	45	2					38A 120 LVS	699366 <b>75791</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75979</b>
180x8x32	01	63	6					19A 60 MVS MTVS	699366 <b>75982</b>
180x10x32	01	45	2			SGB 60 JVX	699366 <b>39145</b>	38A 80 JVS	699366 <b>75781</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75984</b>
180x13x32	01	45	2	1TGP 60 H12VXP	699366 <b>76106</b>	SGB 60 JVX	699366 <b>39148</b>	38A 46 HVS	699366 <b>75798</b>
	01	45	2	3SG 46 JVX	662530 <b>54876</b>	SGB 80 JVX	699366 <b>39149</b>	38A 60 LVS	699366 <b>75797</b>
	01	45	2	3SG 80 JVX	662530 <b>54892</b>			38A 80 LVS	699366 <b>75801</b>
	01	45	2	3SG 120 JVX	662530 <b>54874</b>			38A 120 JVS	699366 <b>75802</b>
180x16x32	01	45	2	3SG 46 HVX	662530 <b>54882</b>	SGB 70 G12VXP	699366 <b>39169</b>	38A 46 HVS	699366 <b>75804</b>
	01	45	2					38A 60 KVS	662530 <b>50453</b>
	01	45	2					86A 70 G12VXP	662530 <b>50358</b>

## DIAMOND DRESSING

- Norton offers an extensive range of complimentary diamond dressing solutions. For more information see page 364.



## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	BEST		BETTER		GOOD	
	 Type 01			 Type 01F					
180x20x32	01	45	2	3SG 46 HVX	662530 <b>54883</b>	SGB 46 H12VXP	699366 <b>38723</b>	38A 46 HVS	662530 <b>50454</b>
	01	45	2	3SG 60 I12VXP	662530 <b>50166</b>	SGB 60 H10VXP	699366 <b>39170</b>	38A 46 JVS	699366 <b>93706</b>
	01	45	2			SGB 60 KVX	662530 <b>49878</b>	38A 60 JVS	699366 <b>75810</b>
	01	45	2					38A 60 MVS	662530 <b>50273</b>
180x25x32	01	45	2					38A 60 KVS	662530 <b>50365</b>
	01	45	2					38A 60 LVS	699366 <b>75812</b>
180x25x51	01	45	2					38A 46 NVS	699366 <b>40967</b>
	01	45	2					38A 60 MVS	699366 <b>41085</b>
200x4x32	01	63	6					19A 60 OVS MDVS	699366 <b>75986</b>
200x6x32	01	45	2	3SG 60 LVX	699366 <b>39434</b>	SGB 120 JVX	699366 <b>77029</b>	38A 60 MVS	662530 <b>50455</b>
	01	45	2					38A 80 NVS	699366 <b>39662</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75988</b>
	01	63	6					19A 60 OVS MDVS	699366 <b>75987</b>
200x8x20	01F	45	6			38A 60 NVS	699366 <b>88291</b>		
200x8x32	01	63	6					38A 60 MVS T6	699366 <b>58078</b>
	01	63	6					19A 54 OVS MDVS	699366 <b>75989</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75990</b>
200x10x32	01	45	2	3SG 60 LVX	662530 <b>54884</b>	SGB 60 JVX	699366 <b>39157</b>	38A 60 LVS	699366 <b>75818</b>
	01	45	2			SGB 80 JVX	699366 <b>39158</b>	38A 120 JVS	699366 <b>75819</b>
	01	63	6					38A 60 MVS T6	699366 <b>75927</b>
	01	63	6					86A 54 OVS D6	662530 <b>50147</b>
	01	63	6					19A 54 OVS MDVS	699366 <b>75991</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75992</b>
	01F	63	6					38A 54 OVS	699366 <b>7264</b>
200x13x32	01	45	2			SGB 60 JVX	699366 <b>39160</b>	38A 46 HVS	699366 <b>75826</b>
	01	45	2			SGB 60 KVX	662530 <b>49881</b>	38A 60 JVS	699366 <b>75821</b>
	01	45	2			SGB 80 JVX	699366 <b>39161</b>	38A 60 LVS	699366 <b>75823</b>
	01	45	2			SGB 120 JVX	699366 <b>76608</b>	86A 70 G12VXP	662530 <b>50374</b>
	01	63	6					38A 60 MVS T6	699366 <b>75928</b>
	01	63	6					19A 54 OVS MDVS	699366 <b>75993</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75994</b>
200x13x50,8	01	45	2					38A 60 JVS	699366 <b>39432</b>
200x16x32	01	45	2					38A 46 HVS	699366 <b>75828</b>
	01	45	2					38A 60 KVS	662530 <b>50456</b>
200x16x50,8	01	45	2					38A 60 JVS	699366 <b>41314</b>
200x16x76,2	01	45	2					38A 60 LVS	699366 <b>75827</b>
200x20x32	01	45	2	3SG 60 H12VXP	699366 <b>77181</b>	SGB 46 HVX	699366 <b>39171</b>	38A 46 HVS	699366 <b>75551</b>
	01	45	2	3SG 60 IVX	662530 <b>50258</b>	SGB 60 H12VXP	699366 <b>39172</b>	38A 46 KVS	662530 <b>51075</b>
	01	45	2	3SG 60 JVX	662530 <b>55869</b>	SGB 60 KVX	662530 <b>49887</b>	38A 46 NVS	699366 <b>41400</b>
	01	45	2			SGB 60 MVX	662530 <b>50173</b>	38A 60 KVS	662530 <b>51077</b>
	01	45	2					38A 60 NVS	699366 <b>67154</b>
	01	45	2					38A 80 KVS	662530 <b>51080</b>
	01	45	2					86A 54 H12VXP	662530 <b>51532</b>

Dimensions Key: DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	BEST		BETTER		GOOD	
Type 01									
200x20x50	01	45	2	3SG 46 E12VXP	699366 <b>76703</b>			38A 46 KVS	699366 <b>41104</b>
	01	45	2	3SG 60 HVX	662530 <b>54886</b>			86A 46 IVTECH	662530 <b>50386</b>
	01	45	2	3SG 60 JVX	662530 <b>50362</b>				
200x20x50,8	01	45	2	3SG 46 I12VXP	662530 <b>52711</b>			38A 46 JVS	699366 <b>75832</b>
	01	45	2	3SG 60 H12VXP	662435 <b>93696</b>			38A 46 KVS	662530 <b>50103</b>
	01	45	2	3SG 80 HVX	699366 <b>76399</b>			38A 60 HVS	699366 <b>75834</b>
	01	45	2					38A 60 KVS	662530 <b>49967</b>
	01	45	2					38A 100 JVS	699366 <b>39795</b>
200x20x51	01	45	2			SGB 60 JVX	699366 <b>39251</b>	38A 46 KVS	662530 <b>51084</b>
	01	45	2					38A 60 KVS	662530 <b>51085</b>
200x20x76	01	45	2	3SG 46 IVX	662530 <b>54888</b>			86A 46 IVTECH	662530 <b>50250</b>
200x20x76,2	01	45	2	3SG 46 HVX	662530 <b>50156</b>			38A 46 HVS	699366 <b>41521</b>
	01	45	2	3SG 60 IVX	662530 <b>50157</b>			38A 60 LVS	699366 <b>75836</b>
200x25x32	01	45	2	3SG 60 JVX	662530 <b>54889</b>	SGB 46 GV12XP	662530 <b>51385</b>	38A 46 LVS	699366 <b>27127</b>
	01	45	2			SGB 60 KVX	662530 <b>49888</b>	38A 46 NVS	699366 <b>41406</b>
	01	45	2					38A 60 LVS	699366 <b>41407</b>
	01	45	2					38A 60 MVS	662530 <b>51079</b>
	01	45	2					38A 80 KVS	662530 <b>51082</b>
	01	45	2					38A 80 NVS	699366 <b>75847</b>
	01	45	2					38A 100 JVS	662435 <b>70496</b>
200x25x50,8	01	45	2			SGB 46 KVX	662530 <b>50183</b>	38A 46 HVS	699366 <b>75840</b>
	01	45	2					38A 54 I12VXP	699366 <b>81147</b>
200x25x51	01	45	2			SGB 46 HVX	662530 <b>49855</b>	38A 46 KVS	662530 <b>51086</b>
	01	45	2					38A 60 KVS	662530 <b>51089</b>
	01	45	2					38A 60 LVS	699366 <b>40125</b>
200x25x76,2	01	45	2					38A 46 HVS	699366 <b>41562</b>
	01	45	2					38A 46 KVS	662530 <b>49968</b>
	01	45	2					38A 46 NVS	699366 <b>75841</b>
	01	45	2					38A 60 MVS	662530 <b>49969</b>
	01	45	2					38A 60 NVS	699366 <b>75846</b>
200x32x32	01	45	2			SGB 60 KVX	662530 <b>49892</b>	38A 46 MVS	662530 <b>52712</b>
	01	45	2					38A 60 LVS	699366 <b>75855</b>
	01	45	2					38A 60 NVS	699366 <b>71155</b>
200x32x51	01	45	2				38A 60 LVS	699366 <b>40245</b>	
200x32x76,2	01	45	2					38A 46 IVS	662530 <b>52713</b>
	01	45	2					38A 46 NVS	699366 <b>75849</b>
	01	45	2					38A 60 MVS	662530 <b>49972</b>
	01	45	2					38A 60 NVS	699366 <b>75854</b>
200x35x32	01	45	2			SGB 46 KVX	662530 <b>49859</b>		
200x40x50,8	01	45	2			SGB 46 H12VXP	699366 <b>76377</b>	38A 46 IVS	699366 <b>81707</b>

All wheels with diameters 100mm-200mm and a 32mm bore are supplied with plastic bushes to reduce the bore size to 20mm. For a full range of plastic bushes please refer to the Technical Information Section at the back of this catalogue.

## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	BEST		BETTER		GOOD	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Type 01         </div> <div style="text-align: center;">  Type 01F         </div> </div>									
225x5x60	01	45	2					38A 54 JVS	699366 <b>75859</b>
225x20x51	01	45	2	3SG 60 H12VXP	699366 <b>76452</b>	SGB 60 HVX	699366 <b>40943</b>	38A 46 IVS	699366 <b>40871</b>
225x25x51	01	45	2	3SG 54 F12VXP	699366 <b>76380</b>				
225x25x76,2	01	45	2	3SG 46 HVX	662435 <b>70377</b>				
225x32x76,2	01	45	2	3SG 46 HVX	662530 <b>55043</b>				
	01	45	2	3SG 60 H12VXP	662435 <b>93705</b>				
230x6x50,8	01	45	2					38A 100 JVS	699366 <b>39629</b>
230x10x32	01	63	6					38A 60 MVS T6	699366 <b>75929</b>
230x10x50,8	01	45	2					38A 100 JVS	699366 <b>40665</b>
230x13x32	01	63	6					38A 60 MVS T6	699366 <b>75930</b>
230x20x50,8	01	45	2	3SG 60 IVX	662530 <b>50240</b>			38A 60 JVS	699366 <b>39549</b>
230x25x50,8	01	45	2					38A 60 HVS	699366 <b>39829</b>
250x10x32	01	45	1					38A 60 KVS	662530 <b>49904</b>
	01	63	6					38A 60 MVS T6	699366 <b>75931</b>
	01	63	6					86A 54 KVS M6	662530 <b>50146</b>
	01	63	6					86A 54 OVS D6	662530 <b>50139</b>
	01	63	6					19A 54 OVS MDVS	699366 <b>75998</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>75999</b>
	01F	45	6					38A 46 MVS	662530 <b>50218</b>
	01F	45	6					38A 54 OVS	699366 <b>67265</b>
250x13x32	01	63	6					38A 60 MVS T6	699366 <b>75932</b>
	01	63	6					86A 54 KVS M6	662530 <b>50123</b>
	01	63	6					86A 54 OVS D6	662530 <b>50128</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>76001</b>
250x13x76,2	01	45	1	3SG 60 KVX	699366 <b>23734</b>				
250x20x32	01	45	1					38A 46 KVS	662530 <b>49918</b>
	01	45	1					38A 60 KVS	662530 <b>49920</b>
250x20x76,2	01	45	1					38A 60 LVS	699366 <b>75862</b>

## DIAMOND DRESSING

- Norton offers an extensive range of complimentary diamond dressing solutions. For more information see page 364.



## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	INNOVATION		BETTER	GOOD		
				BEST	BEST				
Type 01									
250x25x32	01	45	1	3SG 60 HVX	662530 <b>50363</b>	SGB 60 KVX	662530 <b>50160</b>	38A 60 JVS	662530 <b>51098</b>
	01	45	1					38A 60 KVS	662530 <b>49930</b>
	01	45	1					38A 60 LVS	662530 <b>49927</b>
	01	45	1					38A 60 MVS	662530 <b>51380</b>
	01	45	1					38A 80 KVS	662530 <b>49932</b>
	01	45	1					86A 46 IVTECH	662530 <b>50275</b>
	01	45	1					86A 60 IVTECH	662530 <b>50390</b>
250x25x50,8	01	45	1	3SG 46 KVX	662530 <b>50107</b>			38A 46 LVS	699366 <b>23714</b>
250x25x51	01	45	1					38A 46 IVS	699366 <b>40283</b>
	01	45	1					38A 46 KVS	662530 <b>49936</b>
	01	45	1					38A 60 KVS	662530 <b>49939</b>
250x25x76	01	45	1					38A 46 KVS	662530 <b>49902</b>
	01	45	1					38A 60 KVS	662530 <b>49905</b>
	01	45	1					38A 60 LVS	699366 <b>78984</b>
	01	45	1					38A 80 KVS	662530 <b>49907</b>
250x25x76,2	01	45	1	IPA 60 EH17VTX	662530 <b>52716</b>	SGB 46 HVX	662435 <b>70378</b>	38A 46 G12VXP	662530 <b>50292</b>
	01	45	1	IPA 60 XH17VTX	662530 <b>52721</b>	SGB 46 KVX	662530 <b>50124</b>	38A 46 IVS	662530 <b>50369</b>
	01	45	1	3SG 46 KVX	699366 <b>23668</b>	SGB 60 KVX	662530 <b>50126</b>	38A 46 LVS	699366 <b>23691</b>
	01	45	1	3SG 54 F12VXP	699366 <b>76054</b>	SGB 70 H12VXP	699366 <b>23901</b>	38A 60 IVS	662530 <b>50101</b>
	01	45	1	3SG 60 KVX	662530 <b>55045</b>			38A 60 LVS	699366 <b>23733</b>
	01	45	1					38A 80 LVS	699366 <b>23651</b>
250x25x120,6	01	45	1					38A 60 LVS	699366 <b>23688</b>
250x32x32	01	45	1			SGB 60 KVX	662530 <b>50162</b>	38A 46 KVS	662530 <b>49909</b>
	01	45	1					38A 60 KVS	662530 <b>49911</b>
	01	45	1					38A 60 NVS	699366 <b>7158</b>
	01	45	1					38A 80 KVS	662530 <b>49915</b>
250x32x76	01	45	1				38A 60 KVS	662530 <b>51102</b>	
250x32x76,2	01	45	1	3SG 46 HVX	662530 <b>55046</b>				
250x40x32	01	45	1					38A 60 KVS	662530 <b>51093</b>
250x40x51	01	45	1					38A 60 KVS	662530 <b>51095</b>
250x40x76	01	45	1					38A 46 KVS	662530 <b>51104</b>
250x40x76,2	01	45	1	3SG 46 G12VXP	699366 <b>76056</b>	SGB 46 I10VXP	662530 <b>50205</b>	38A 46 I12VXP	699366 <b>81148</b>
	01	45	1	3SG 46 IVX	662530 <b>50259</b>			38A 46 KVS	662530 <b>50186</b>
250x50x76,2	01	45	1			SGB 46 KVX	662530 <b>50129</b>	38A 46 LVS	699366 <b>23717</b>
300x13x127	01	45	1			SGB 60 KVX	662530 <b>50131</b>	38A 60 LVS	699366 <b>23652</b>
300x20x127	01	45	1					38A 60 LVS	699366 <b>75872</b>
300x25x127	01	45	1	3SG 46 KVX	662530 <b>55050</b>	SGB 60 KVX	662530 <b>50132</b>	38A 46 LVS	699366 <b>23601</b>
	01	45	1	3SG 60 H12VXP	699366 <b>77184</b>	SGB 80 I12VXP	662530 <b>50121</b>	38A 60 KVS	662530 <b>50105</b>
	01	45	1	3SG 60 KVX	662530 <b>55052</b>			38A 80 LVS	699366 <b>23648</b>
	01	45	1					57A 60 LVS	662530 <b>50370</b>

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

## STRAIGHT WHEELS (CONTINUED)

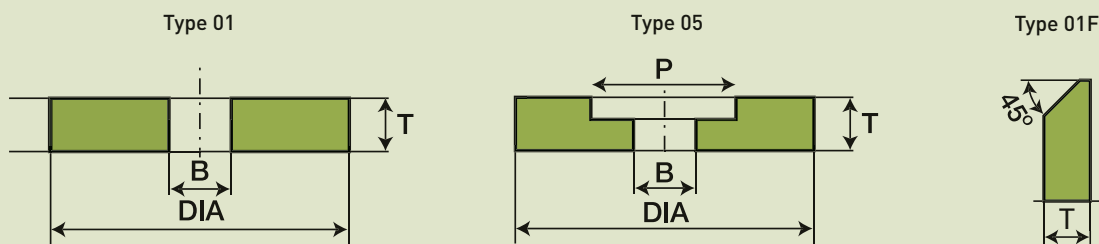
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	INNOVATION				BETTER	GOOD
				BEST		BEST			
				BEST		BEST			
Type 01									
300x32x32	01	45	1					38A 46 NVS	69936675879
	01	45	1					38A 60 KVS	66253051100
	01	45	1					38A 60 NVS	69936639618
300x32x76,2	01	45	1					38A 46 HVS	66253050257
300x32x127	01	45	1	IPA 60 EH20VTX	66253049858	SGB 46 F12VXP	69936676705	38A 46 HVS	69936675883
	01	45	1	IPA 60 XH20VTX	66253049861	SGB 46 HVX	66243570380	38A 60 LVS	69936675884
	01	45	1	3SG 60 K VX	66253055872	SGB 46 IVX	66253050175		
	01	45	1			SGB 60 K VX	69936676386		
300x40x51	01	45	1					38A 46 KVS	66253051096
	01	45	1					38A 60 KVS	66253049944
300x40x76	01	45	1					38A 46 KVS	66253049948
	01	45	1					38A 60 KVS	66253049953
300x40x76,2	01	45	1	IPA 60 EH20VTX	66253049863				
	01	45	1	IPA 60 XH20VTX	66253049866				
300x40x127	01	45	1	3SG 46 HVX	66253055893	SGB 46 G12VXP	69936639946	38A 46 IVS	66253049975
	01	45	1	3SG 60 K VX	66253055053	SGB 60 K VX	66253050179	38A 60 LVS	69936675891
	01	45	1					86A 54 G12VXP	66253051533
300x50x76,2	01	45	1					38A 46 IVS	66253050251
300x50x127	01	45	1	IPA 60 EH20VTX	66253049869	SGB 46 G12VXP	66243570384	38A 46 JVS	69936623649
	01	45	1	IPA 60 XH20VTX	66253049872			38A 60 KVS	66253054524
355x25x127	01	45	1	IPA 60 EH20VTX	66253049873	SGB 46 JVX	66253050118	38A 60 LVS	69936675901
	01	45	1	IPA 60 XH20VTX	66253049875	SGB 60 LVX	66253050135		
	01	45	1	3SG 60 LVX	66253055895				
355x30x127	01	45	1			SGB 46 G11VXP	66253050177		
355x32x127	01	45	1	3SG 60 K VX	66253055902	SGB 54 E12VXP	69936676713	38A 60 LVS	69936675903
355x40x51	01	45	1					38A 46 KVS	66253051373
	01	45	1					38A 60 KVS	66253049963
355x40x127	01	45	1	IPA 60 EH20VTX	66253049877	SGB 46 G12VXP	66253049901	38A 46 JVS	69936623753
	01	45	1	IPA 60 XH20VTX	66253049879	SGB 46 JVX	66253050117	38A 60 LVS	69936675908
	01	45	1	3SG 46 HVX	66253055056	SGB 80 I12VXP	66253055058		
	01	45	1	3SG 60 LVX	66253055057				
355x50x41	01	45	1					38A 46 KVS	66253049941
355x50x51	01	45	1					38A 60 KVS	66253051101
355x50x127	01	45	1	IPA 60 EH20VTX	66253049880	SGB 46 H11VXP	66253054500	38A 46 IVS	69936675913
	01	45	1	IPA 60 XH20VTX	66253049883	SGB 46 J12VX	69936623781	38A 46 I11VXP	66253050212
	01	45	1	3SG 46 F12VXP	69936623900	SGB 54 G12VXP	66253049857	38A 46 KVS	66253051108
	01	45	1	3SG 46 HVX	66253055059	SGB 60 K VX	66253050138	38A 60 KVS	66253049951
	01	45	1	3SG 46 JVX	66253055063			38A 80 KVS	66253049955

Dimensions Key: DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	INNOVATION				BETTER	GOOD
				BEST		BEST			
<b>Type 01</b>									
355x63x127	01	45	1					38A 46 KVS	662530 <b>49957</b>
	01	45	1					38A 60 KVS	662530 <b>49959</b>
406x25x127	01	45	1	3SG 60 LVX	662530 <b>55083</b>	SGB 60 KVX	699366 <b>44046</b>	38A 60 LVS	699366 <b>94018</b>
406x32x127	01	45	1					38A 60 LVS	662530 <b>49841</b>
406x40x127	01	45	1	3SG 60 LVX	662530 <b>55086</b>	SGB 60 KVX	662530 <b>49843</b>	38A 46 JVS	662434 <b>66541</b>
	01	45	1					38A 46 KVS	662530 <b>55066</b>
	01	45	1					38A 60 LVS	662434 <b>66542</b>
	01	45	1					38A 80 KVS	662530 <b>55069</b>
406x50x127	01	45	1	IPA 60 EH20VTX	662530 <b>49884</b>	SGB 46 G12VXP	662434 <b>68401</b>	38A 46 I12VXP	662530 <b>54508</b>
	01	45	1	IPA 60 XH20VTX	662530 <b>49885</b>	SGB 46 HVX	662434 <b>48363</b>	38A 46 JVS	662434 <b>66547</b>
	01	45	1	5SG 46 G12VXP	662434 <b>68188</b>	SGB 60 KVX	662530 <b>55072</b>	38A 60 LVS	662434 <b>66546</b>
	01	45	1	3SG 46 HVX	662530 <b>55912</b>				
	01	45	1	3SG 54 F12VXP	662530 <b>54506</b>				
406x50x203	01	45	1					38A 46 KVS	662530 <b>55078</b>
	01	45	1					38A 60 KVS	662530 <b>55079</b>
406x60x127	01	45	1					38A 60 LVS	662530 <b>49839</b>
457x50x127	01	45	1					38A 60 LVS	662434 <b>66558</b>
500x50x203	01	45	1					38A 60 KVS	662530 <b>54504</b>
500x50x203,2	01	45	1			SGB 60 KVX	662434 <b>48367</b>		
500x60x203,2	01	45	1			SGB 60 KVX	662530 <b>49853</b>		
500x63x203,2	01	45	1					38A 60 LVS	662434 <b>47835</b>
500x80x203,2	01	45	1			SGB 60 JVX	662530 <b>49850</b>		
508x50x203,2	01	45	1	3SG 60 KVX	662530 <b>55088</b>				
508x80x203,2	01	45	1					38A 60 LVS	662434 <b>65706</b>
508x203x304,8	01	45	1					57A 60 MVS	662530 <b>49852</b>
710x40x50	01	45	1					A90 NVS	662530 <b>49847</b>

### SHAPE KEY





Norton vitrified grinding wheels have set the standard for generations – leading the way with technological improvements to maximise performance and productivity. Silicon carbide wheels are used primarily on tungsten carbide, non-magnetic stainless steel, aluminium and glass.

## APPLICATIONS & MARKETS

- Surface grinding
- Tool & cutter grinding
- Sharpening



BETTER	<b>39C</b>		Type 01	
	<b>FEATURES</b>	<b>BENEFITS</b>		
	<ul style="list-style-type: none"> <li>■ Highest purity green silicon carbide abrasive</li> <li>■ Harder &amp; more friable than aluminium oxide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Ideal for precision grinding &amp; sharpening applications on metal carbide &amp; non-ferrous metals</li> </ul>		

## DIAMOND DRESSING

- Norton offers an extensive range of complimentary diamond dressing solutions. For more information see page 364



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

## STRAIGHT WHEELS

DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	GOOD		DIM DxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	GOOD	
Type 01						Type 01					
76x25x12,7	01	45	10	39C 80 IV	662530 <b>52726</b>	200x25x32	01	45	2	39C 80 KVS	662530 <b>50276</b>
76x25x13	01	45	10	39C 80 IV	662530 <b>50168</b>		01	45	2	39C 100 JVS	662530 <b>50375</b>
80x25x12,7	01	45	10	39C 60 MV	662530 <b>51624</b>		01	45	2	39C 120 KVS	699366 <b>41428</b>
80x25x13	01	45	10	39C 60 MV	662530 <b>51623</b>	200x25x76,2	01	45	2	39C 60 KVS	699366 <b>75672</b>
100x10x32	01	45	2	39C 80 LVS	662530 <b>50380</b>		01	45	2	39C 80 LVS	699366 <b>75673</b>
	01	45	2	39C 120 KVS	662530 <b>49701</b>		01	45	2	39C 120 KVS	699366 <b>75674</b>
125x13x32	01	45	2	39C 80 KVS	662530 <b>49896</b>	200x32x32	01	45	2	39C 60 KVS	699366 <b>40293</b>
125x16x32	01	45	2	39C 80 LVS	662530 <b>50393</b>		01	45	2	39C 80 KVS	699366 <b>71106</b>
125x20x32	01	45	2	39C 80 LVS	699366 <b>74443</b>		01	45	2	39C 120 KVS	699366 <b>75677</b>
150x4x32	01	45	2	39C 120 KVS	662530 <b>50248</b>	200x32x51	01	45	2	39C 60 KVS	699366 <b>41031</b>
150x6x32	01	45	2	39C 100 KVS	662530 <b>50377</b>	200x32x76,2	01	45	2	39C 60 KVS	699366 <b>75643</b>
	01	45	2	39C 120 KVS	699366 <b>75617</b>		01	45	2	39C 80 KVS	699366 <b>75644</b>
150x10x32	01	45	2	39C 80 KVS	662530 <b>50357</b>		01	45	2	39C 120 KVS	699366 <b>75678</b>
	01	45	2	39C 120 KVS	699366 <b>75629</b>	200x6x32	01	45	2	39C 120 KVS	699366 <b>75636</b>
150x13x32	01	45	2	39C 80 KVS	662530 <b>49897</b>	225x25x32	01	45	2	39C 60 LVS	699366 <b>71108</b>
150x16x32	01	45	2	39C 60 KVS	699366 <b>75656</b>	225x32x32	01	45	2	39C 80 KVS	699366 <b>71109</b>
	01	45	2	39C 120 KVS	699366 <b>75659</b>	250x13x32	01	45	1	39C 36 KV	699366 <b>55917</b>
	01	45	2	39C 80 LVS	699366 <b>75657</b>	250x25x32	01	45	1	39C 60 KV	662530 <b>49923</b>
150x20x20	01	45	2	39C 60 JV	662530 <b>51383</b>		01	45	1	39C 60 LVS	699366 <b>71111</b>
150x20x32	01	45	2	39C 60 KVS	699366 <b>41411</b>		01	45	1	39C 80 KV	662530 <b>50477</b>
	01	45	2	39C 80 LVS	699366 <b>41413</b>	01	45	1	39C 80 LVS	699366 <b>75679</b>	
	01	45	2	39C 100 JVS	662530 <b>50300</b>	250x25x76,2	01	45	1	39C 54 MVS	699366 <b>23732</b>
01	45	2	39C 120 KVS	699366 <b>41414</b>	01		45	1	39C 100 KVS	699366 <b>23643</b>	
150x25x32	01	45	2	39C 60 KVS	699366 <b>75661</b>	250x32x32	01	45	1	39C 60 KVS	699366 <b>39837</b>
	01	45	2	39C 80 KVS	662530 <b>50278</b>	01	45	1	39C 80 KVS	699366 <b>40845</b>	
	01	45	2	39C 120 KVS	699366 <b>75664</b>	300x25x127	01	45	1	39C 60 KVS	699366 <b>23687</b>
180x20x32	01	45	2	39C 60 KVS	699366 <b>41415</b>		01	45	1	39C 80 JVS	699366 <b>40343</b>
	01	45	2	39C 80 LVS	699366 <b>76582</b>		01	45	1	39C 100 KVS	699366 <b>23679</b>
	01	45	2	39C 120 KVS	699366 <b>75666</b>	300x32x127	01	45	1	39C 60 KVS	699366 <b>93249</b>
180x25x32	01	45	2	39C 60 KVS	699366 <b>75667</b>	300x40x32	01	45	1	39C 60 KVS	699366 <b>39362</b>
	01	45	2	39C 80 LVS	699366 <b>71101</b>		01	45	1	39C 80 KVS	699366 <b>76387</b>
200x10x32	01	45	2	39C 120 KVS	699366 <b>75637</b>	300x40x76	01	45	1	39C 90 KVS	699366 <b>39836</b>
200x13x32	01	45	2	39C 80 JVS	699366 <b>76152</b>	300x40x127	01	45	1	39C 46 KV	662530 <b>50289</b>
200x20x20	01	45	2	39C 80 KVS	699366 <b>41417</b>		01	45	1	39C 60 KVS	699366 <b>75684</b>
	01	45	2	39C 80 MVS	699366 <b>40220</b>		01	45	1	39C 80 KVS	699366 <b>75649</b>
200x20x32	01	45	2	39C 60 KVS	699366 <b>41418</b>	355x32x127	01	45	1	39C 60 KVS	699366 <b>75650</b>
	01	45	2	39C 80 KVS	699366 <b>76351</b>		01	45	1	39C 80 KVS	699366 <b>75651</b>
	01	45	2	39C 100 JVS	662530 <b>50389</b>	355x40x127	01	45	1	39C 60 KVS	699366 <b>75685</b>
	01	45	2	39C 120 KVS	699366 <b>41421</b>		406x40x127	01	45	1	39C 80 KVS
200x20x51	01	45	2	39C 60 KVS	699366 <b>40176</b>						
200x20x76,2	01	45	2	39C 80 LVS	699366 <b>75671</b>						
200x25x32	01	45	2	39C 46 LVS	699366 <b>75639</b>						
	01	45	2	39C 60 KVS	699366 <b>41424</b>						

All wheels with diameters 100mm-200mm and a 32mm bore are supplied with plastic bushes to reduce the bore size to 20mm. For a full range of plastic bushes please refer to the Technical Information Section at the back of this catalogue.


# BENCH WHEELS

Vitrified bench grinding wheels are used for off-hand tool sharpening and grinding.

## APPLICATIONS & MARKETS

- Sharpening
- Tool room



GOOD	<b>A</b>	■■■■■ Type 01	
	<b>FEATURES</b>	<b>BENEFITS</b>	
	■ Regular brown aluminium oxide abrasive	■ Very tough, suitable for grinding most types of steel & soft iron	
	■ Contains 3% titanium oxide	■ Good cost/performance compromise	
■ Unique, self sharpening, microcrystalline structure	■ Hard wearing wheels for general purpose cylindrical off-hand bench & pedestal grinding applications		

## DIAMOND DRESSING

- Norton offers an extensive range of complimentary diamond dressing solutions. For more information see page 364



## STRAIGHT WHEELS

DIM DIAxTxB(mm)	MOS (M/S)	PK QTY	GOOD	
■■■■■		Type 01		
125x15x20	45	2	A 60 NVS	662530 <b>50184</b>
	45	2	A 36 PVS	699366 <b>66907</b>
125x20x32	45	2	A 46 NVS	699366 <b>75558</b>
	45	2	A 60 NVS	699366 <b>66909</b>
150x16x32	45	2	A 36 PVS	699366 <b>75559</b>
	45	2	A 46 NVS	699366 <b>75560</b>
	45	2	A 60 NVS	699366 <b>75561</b>
150x20x20	45	2	A 60 MVS	662530 <b>51382</b>
150x20x31,75	45	2	A 36 PVS	699366 <b>23300</b>
150x20x32	45	2	A 24 RVS	699366 <b>66911</b>
	45	2	A 36 PVS	699366 <b>41366</b>
	45	2	A 36 QVS	662530 <b>50263</b>
	45	2	A 46 NVS	699366 <b>41367</b>
	45	2	A 60 NVS	699366 <b>41368</b>

## STRAIGHT WHEELS (CONTINUED)

DIM DIAxTxB(mm)	MOS (M/S)	PK QTY	GOOD		DIM DIAxTxB(mm)	MOS (M/S)	PK QTY	GOOD	
Type 01					Type 01				
150x25x32	45	2	A 36 PVS	69936666914	250x40x32	45	1	A 36 QVS	69936666945
	45	2	A 36 QVS	66253050265		45	1	A 60 NVS	69936666946
	45	2	A 46 NVS	69936641370		45	1	A 24 QVS	69936675574
180x20x31,75	45	2	A 46 NVS	69936623305	300x32x32	45	1	A 36 OVS	69936675575
180x20x32	45	2	A 46 NVS	69936641372		45	1	A 60 KVS	66253051091
	180x25x32	45	2	A 60 NVS	69936680380	300x32x50,8	45	1	A 24 QVS
45		2	A 24 RVS	69936666922	45		1	A 46 NVS	69936675578
45		2	A 30 PVS	69936639691	300x32x127	45	1	A 24 QVS	69936675579
45		2	A 36 QVS	69936666923		45	1	A 36 OVS	69936675580
200x20x32	45	2	A 46 NVS	69936675564	300x40x30	45	1	A 46 NVS	69936675581
	45	2	A 60 NVS	69936676609		45	1	A 36 PVS	69936681734
	45	2	A 24 RVS	69936666926	300x40x32	45	1	A 60 NVS	69936681735
	45	2	A 30 PVS	69936675566		45	1	A 46 NVS	69936639682
	45	2	A 36 QVS	69936666928	45	1	A 60 MVS	69936640221	
200x25x32	45	2	A 46 NVS	69936641375	300x40x50	45	1	A 90 OVS	69936640787
	45	2	A 60 NVS	69936666929	300x40x50,8	45	1	A 60 NVS	69936623670
	45	2	A 24 RVS	69936676374	300x40x51	45	1	A 24 PVS	66253051090
	45	2	A 30 PVS	69936641382		45	1	A 60 KVS	66253051092
	45	2	A 36 PVS	69936641383	300x40x76	45	1	A 60 NVS	69936639611
	45	2	A 36 QVS	66253050267	300x40x76,2	45	1	A 36 OVS	69936675607
200x25x76,2	45	2	A 46 MVS	66253050271	300x40x127	45	1	A 24 QVS	69936675583
	45	2	A 60 NVS	69936693708		45	1	A 36 OVS	69936675584
	45	2	A 30 PVS	69936675567	45	1	A 46 NVS	69936675585	
	45	2	A 46 NVS	69936675568	300x50x32	45	1	A 24 QVS	69936639767
	45	2	A 60 NVS	69936675569		45	1	A 36 OVS	69936681823
45	2	A 24 RVS	69936666930	45		1	A 46 NVS	66243570460	
200x32x32	45	2	A 36 PVS	69936666932	45	1	A 60 NVS	66243570484	
	45	2	A 46 NVS	69936640814	350x40x35	45	1	A 36 QVS	69936681739
	45	2	A 60 NVS	69936690246	350x50x35	45	1	A 24 RVS	69936681743
	45	2	A 60 NVS	69936640748		45	1	A 36 QVS	69936681741
200x32x51	45	2	A 60 NVS	69936640748	45	1	A 60 NVS	69936681742	
200x32x76,2	45	2	A 46 NVS	66243593707	355x40x127	45	1	A 24 QVS	69936675586
	45	2	A 36 QVS	69936666938		45	1	A 46 NVS	69936675587
225x32x32	45	2	A 60 NVS	69936694426	355x45x127	45	1	A 36 OVS	69936676013
	45	2	A 36 PVS	69936666940		45	1	A 46 NVS	69936675910
250x25x32	45	1	A 46 NVS	69936641386	355x50x127	45	1	A 24 QVS	69936675588
	45	1	A 24 QVS	69936666942		45	1	A 36 OVS	69936675589
250x32x32	45	1	A 30 PVS	69936675572		45	1	A 46 NVS	69936675590
	45	1	A 36 PVS	69936666943	406x40x50,8	45	1	A 24 QVS	69936694363
	45	1	A 46 NVS	69936640194	406x50x50	45	1	A 24 QVS	66243448177
	45	1	A 60 MVS	69936642130	406x50x127	45	1	A 24 QVS	66243467496
				45		1	A 36 QVS	66243467497	

All wheels with diameters 100mm-200mm and a 32mm bore are supplied with plastic bushes to reduce the bore size to 20mm. For a full range of plastic bushes please refer to the Technical Information Section at the back of this catalogue.



**Dimensions Key:** DIM = Dimensions, D = Diameter, T = Thickness, B = Bore


Manufactured using Norton's market leading abrasives technology, vitrified dishes are designed to maximise performance and productivity in sharpening applications.

## APPLICATIONS & MARKETS

- Sharpening




<b>BEST</b>	<b>3SG<sup>®</sup></b>  Type 12		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>■ High concentration of SG<sup>®</sup> ceramic aluminium oxide abrasive</li> <li>■ Unique, self sharpening, microcrystalline structure</li> </ul>	<ul style="list-style-type: none"> <li>■ Very high cutting capability</li> <li>■ High removal rate &amp; extended wheel life</li> <li>■ Suitable for very hard steels</li> </ul>	

<b>BETTER</b>	<b>SGB<sup>®</sup></b>  Type 12		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>■ Medium concentration of SG<sup>®</sup> ceramic aluminium oxide abrasive</li> <li>■ Harder &amp; sharper than conventional abrasive grains</li> </ul>	<ul style="list-style-type: none"> <li>■ Good cutting capability</li> <li>■ Suitable for low to medium power machines</li> <li>■ Very versatile, for use on a wide variety of steels</li> </ul>	

GOOD

## 38A


 Type 12

**FEATURES**


- High purity white aluminium oxide abrasive
- Friable abrasive

**BENEFITS**

- Cool & burn free cutting
- Ideal for heat-sensitive applications with light to moderate feed rates




## METAL PRECISION

DIM DIAxTxB (mm)	W (mm)	E (mm)	J (mm)	K (mm)	U (mm)	MOS (M/S)	PK QTY	BEST		BETTER		GOOD		
 Type 12														
76x8x12,7	5	8	25	25	1	45	10						38A 80 MVS	699366 <b>23916</b>
80x10x13	4	6	35	35	2,5	45	10						38A 60 LVS	699366 <b>88738</b>
100x13x12,7	5	7	45	50	2,5	45	2						38A 60 KVS	699366 <b>24605</b>
100x13x20	5	7	41	41	3,2	45	2	3SG 60 K VX	662530 <b>50236</b>	SGB 60 LVX	699366 <b>86659</b>	38A 60 KVS	699366 <b>86186</b>	
	5	7	41	41	3,2	45	2					38A 120 MVS	699366 <b>86189</b>	
125x13x20	6	7	61	61	3,2	45	2	3SG 60 JVX	699366 <b>86768</b>			38A 60 KVS	699366 <b>86192</b>	
	6	7	61	61	3,2	45	2	3SG 60 K VX	662530 <b>50242</b>					
150x13x20	7	9	86	86	3,2	45	2	3SG 46 K VX	662530 <b>50143</b>			38A 60 KVS	699366 <b>86199</b>	
	7	9	86	86	3,2	45	2	3SG 60 JVX	699366 <b>86771</b>					
150x13x20	8	9	56	56	3,2	45	2	3SG 60 LVX	662530 <b>50231</b>	SGB 46 LVX	699366 <b>86732</b>	38A 60 NVS	699366 <b>86818</b>	
	8	9	56	56	3,2	45	2			SGB 60 LVX	699366 <b>82791</b>			
150x13x32	7	9	86	86	3,2	45	2	3SG 46 K VX	662530 <b>50238</b>			38A 46 KVS	699366 <b>86194</b>	
	7	9	86	86	3,2	45	2	3SG 60 K VX	662530 <b>50239</b>			38A 60 KVS	699366 <b>86198</b>	
	7	9	86	86	3,2	45	2					38A 120 JVS	699366 <b>86204</b>	
150x16x20	8	9	66	66	3,2	45	2	3SG 54 LVX	699366 <b>86772</b>	SGB 60 K VX	662530 <b>50256</b>	38A 60 KVS	699366 <b>82252</b>	
150x16x32	8	9	66	66	3,2	45	2	3SG 46 K VX	662530 <b>50141</b>			38A 60 KVS	699366 <b>88577</b>	
	8	9	66	66	3,2	45	2	3SG 60 K VX	662530 <b>50232</b>	SGB 60 K VX	662530 <b>50245</b>			
180x16x32	9	10	96	96	3,2	45	2			SGB 60 K VX	662530 <b>50247</b>			
180x20x32	9	11	70	70	3,2	45	2	3SG 54 K VX	662530 <b>50234</b>	SGB 54 K VX	662530 <b>50260</b>			
200x16x20	12	10	90	90	3,2	45	2					38A 46 JVS	699366 <b>88749</b>	
200x20x32	10	12	90	90	3,2	45	2			SGB 46 JVX	662530 <b>50249</b>	38A 60 KVS	699366 <b>86215</b>	
	10	12	90	90	3,2	45	2			SGB 60 K VX	662530 <b>50252</b>			
200x32x32	10	12	92	92	3,2	45	2			SGB 46 IVX	662530 <b>50253</b>			

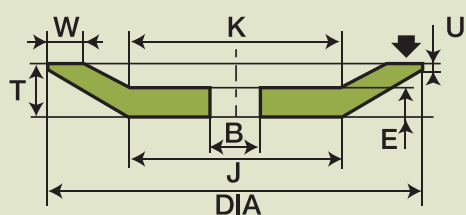
**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore, W = Rim Width, E = Back Thickness, J = External Flat Diameter, K = Internal Flat Diameter, U = Rim Depth

## NON-FERROUS PRECISION

DIM DIAxTxB (mm)	W (mm)	E (mm)	J (mm)	K (mm)	U (mm)	MOS (M/S)	PK QTY	GOOD	
 Type 12									
150x13x32	7	9	86	86	3,2	45	2	39C 80 JV	699366 <b>83998</b>
200x20x32	10	12	90	90	3,2	45	2	39C 80 JV	699366 <b>84001</b>

## SHAPE KEY

Type 12



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore, W = Rim Width, E = Back Thickness, J = External Flat Diameter, K = Internal Flat Diameter, U = Rim Depth



# CUPS

Manufactured with the Norton's leading technology, vitrified cups are designed to maximise performance and productivity for sharpening applications.

## APPLICATIONS & MARKETS

- Sharpening



BEST	<b>5SG®</b> <span style="margin-left: 20px;">  Type 06                 <span style="margin-left: 20px;">  Type 11                 </span> </span>		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>■ Very high concentration of SG® ceramic aluminium oxide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Ultimate cutting capability</li> <li>■ High removal rate &amp; extended cup life</li> <li>■ Perfect for technical applications where grinding parameters can be adjusted to optimise performance</li> </ul>	
<b>3SG®</b> <span style="margin-left: 20px;">  Type 06                 <span style="margin-left: 20px;">  Type 11                 </span> </span>			
<b>FEATURES</b>	<b>BENEFITS</b>		
<ul style="list-style-type: none"> <li>■ High concentration of SG® ceramic aluminium oxide abrasive</li> <li>■ Unique, self sharpening, microcrystalline structure</li> </ul>	<ul style="list-style-type: none"> <li>■ Very good cutting capability</li> <li>■ High removal rate &amp; extended wheel life</li> <li>■ Suitable for very hard steels</li> </ul>		

**BETTER**

**SGB®**



Type 06



Type 11

**FEATURES**

- Medium concentration of ceramic aluminium oxide abrasive
- Harder & sharper than conventional abrasive grains

**BENEFITS**

- Good cutting capability
- Suitable for low to medium power machines
- Very versatile on a wide variety of steels



**39C**



Type 06

**FEATURES**

- Highest purity green silicon carbide abrasive
- Harder & more friable than aluminium oxide type abrasive

**BENEFITS**

- Ideal for precision grinding & sharpening applications on metal carbide & non-ferrous metals



**GOOD**

**38A**



Type 06



Type 11

**FEATURES**

- High purity white aluminium oxide abrasive
- Friable abrasive

**BENEFITS**

- Cool & burn free cutting
- Ideal for heat-sensitive applications with light to moderate feed rates



**86A**



Type 06



Type 11

**FEATURES**


- Highly refined pink aluminium oxide abrasive
- Tougher abrasive than pure white aluminium oxide
- Contains a small portion of chromium oxide

**BENEFITS**

- Very versatile
- Reduced dress frequency



## METAL PRECISION

DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	INNOVATION		BETTER	GOOD		
					BEST					
					BEST					
 Type 06										
63x40x20	10	10	45	10				38A 60 KVS	699366 <b>74852</b>	
80x40x20	6	8	63	6				38A 60 MVS M6	699366 <b>74809</b>	
	6	10	45	10			SGB 60 JVX	662435 <b>70391</b>		
	8	8	63	6				38A 60 KVS T6	699366 <b>74810</b>	
	8	10	45	10	ES5 60 LVX	662530 <b>49970</b>				
	10	10	45	10			SGB 60 LVX	662530 <b>50098</b>		
80x40x32	10	10	45	10				38A 46 KVS	699366 <b>74853</b>	
100x40x32	13	13	45	2				38A 60 KVS	699366 <b>74854</b>	
100x50x19,8	11	11	45	2				38A 120 KVS	699366 <b>23690</b>	
100x50x20	8	10	45	2			SGB 46 JVX	662435 <b>70392</b>		
	8	10	45	2			SGB 60 KVX	699366 <b>41284</b>		
	10	10	45	2	3SG 46 KVX	662530 <b>50071</b>		38A 46 KVS	699366 <b>44193</b>	
	10	10	45	2	3SG 60 JVX	662530 <b>50069</b>		38A 60 JVS	699366 <b>74860</b>	
	10	10	45	2	3SG 60 KVX	662530 <b>49965</b>		38A 60 KVS	699366 <b>74857</b>	
	10	10	45	2	3SG 70 KVX	662530 <b>50067</b>		38A 80 JVS	699366 <b>39600</b>	
	10	13	45	2	3SG 60 LVX	662530 <b>49960</b>		38A 60 LVS	699366 <b>39450</b>	
	10	13	45	2	3SG 80 LVX	662530 <b>49966</b>		38A 60 MVS	699366 <b>39460</b>	
	10	13	45	2				38A 80 KVS	699366 <b>39436</b>	
100x50x32	10	10	45	2	5SG 60 KVX	662530 <b>50070</b>		38A 60 KVS	699366 <b>74859</b>	
	10	10	45	2	3SG 46 JVX	662530 <b>50072</b>				
	10	10	45	2	3SG 60 KVX	662530 <b>50073</b>				
125x50x32	10	13	45	2				38A 60 LVS	699366 <b>39992</b>	
	13	13	45	2	3SG 46 JVX	699366 <b>76356</b>	SGB 60 JVX	662530 <b>50075</b>	38A 46 KVS	699366 <b>74867</b>
125x63x32	8	13	45	2				38A 46 KVS	662530 <b>49958</b>	
	10	10	45	2				86A 46 E12 VXP	662530 <b>51528</b>	
	10	13	45	2			SGB 60 KVX	699366 <b>40579</b>		
	13	16	45	2				86A 46 G12 VXP	662530 <b>51525</b>	
150x32x32	35	12	45	2				38A 60 LVS	699366 <b>40294</b>	
150x32x60	32	13	45	2				38A 60 MVS	699366 <b>74871</b>	
150x40x32	16	13	45	2				38A 46 HVS	699366 <b>74872</b>	
	16	13	45	2				38A 60 KVS	699366 <b>74875</b>	
150x50x32	16	16	45	2	3SG 46 KVX	662530 <b>50068</b>	SGB 46 KVX	662530 <b>50093</b>	38A 46 JVS	699366 <b>76128</b>
	16	16	45	2			SGB 60 KVX	662530 <b>50076</b>	38A 60 KVS	699366 <b>74879</b>
150x50x65	20	16	45	2				38A 60 LVS	699366 <b>39480</b>	
150x60x32	10	16	45	2			SGB 54 KVX	662530 <b>50099</b>		
150x63x32	16	16	45	2			SGB 46 JVX	662530 <b>54727</b>	38A 36 IVS	699366 <b>40369</b>
	16	16	45	2					38A 46 HVS	699366 <b>74905</b>
	16	16	45	2					38A 46 JVS	699366 <b>74881</b>
150x63x50,8	16	16	45	2			SGB 36 HVX	662530 <b>50080</b>		
	16	16	45	2			SGB 60 JVX	662530 <b>50082</b>		

Dimensions Key: DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore, W = Rim Width, E = Back Thickness

**METAL PRECISION (CONTINUED)**


DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	BEST		BETTER		GOOD	
Type 06										
150x80x32	20	20	45	2			SGB 46 G12 VXP	699366 <b>76357</b>	38A 46 HVS	699366 <b>74905</b>
	20	20	45	2			SGB 46 HVX	662530 <b>50096</b>	38A 46 IVS	699366 <b>58606</b>
165x63x32	10	13	45	2					38A 46 F12 VXP	662530 <b>51529</b>
175x75x76,2	20	20	45	2			SGB 46 G12 VXP	662530 <b>50097</b>	38A 36 IVS	699366 <b>81747</b>
	20	20	45	2					38A 46 H12 VXP	699366 <b>81146</b>
180x40x76,2	32	13	45	2					38A 46 MVS	699366 <b>74884</b>
180x45x60	40	16	45	2					38A 60 MVS	699366 <b>74886</b>
180x63x50,8	16	16	45	2			SGB 46 JVX	662530 <b>50084</b>	38A 36 HVS	699366 <b>74887</b>
180x76x32	16	16	45	2					38A 36 IVS	699366 <b>39449</b>
180x76x78	16	16	45	2	3SG 36 IVX	662530 <b>49962</b>			38A 24 JVS	699366 <b>39987</b>
	16	16	45	2					38A 36 IVS	699366 <b>39587</b>
	16	16	45	2					38A 36 JVS	699366 <b>39817</b>
	16	16	45	2					38A 46 HVS	699366 <b>39616</b>
	16	16	45	2					38A 46 IVS	699366 <b>39533</b>
180x80x32	13	10	45	2			SGB 46 G12 VXP	699366 <b>40451</b>		
	16	16	45	2					38A 46 HVS	699366 <b>74889</b>
200x40x32	45	15	45	2					38A 46 LVS	662435 <b>70536</b>
	45	15	45	2					38A 60 LVS	662435 <b>70537</b>
200x40x76,2	40	13	45	2			SGB 46 LVX	662530 <b>50085</b>	38A 46 KVS	699366 <b>74880</b>
	40	13	45	2			SGB 60 LVX	662530 <b>50087</b>	38A 46 MVS	699366 <b>74890</b>
200x63x50,8	20	20	45	2					38A 46 HVS	699366 <b>74898</b>
200x82x78	16	20	45	2	3SG 36 IVX	662530 <b>49964</b>	SGB 36 H12 VXP	699366 <b>79013</b>	38A 36 IVS	699366 <b>39502</b>
	16	20	45	2					38A 36 IVS	699366 <b>39387</b>
200x100x32	20	25	45	2			SGB 46 G12 VXP	699366 <b>40271</b>		

## METAL PRECISION (CONTINUED)

DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	INNOVATION		BETTER	GOOD		
					BEST					
					BEST					
 Type 11										
80x32x20	6	8	45	6			SGB 46 KVX	662530 <b>50125</b>	38A 60 KVS	699366 <b>82483</b>
	6	8	45	6			SGB 60 LVX	662530 <b>50137</b>		
80x40x20	8	10	45	6	ES5 80 JVX	662530 <b>50109</b>				
100x40x20	8	10	45	2	3SG 46 KVX	662530 <b>50127</b>	SGB 60 LVX	699366 <b>86717</b>	38A 46 KVS	699366 <b>86166</b>
	8	10	45	2	3SG 60 KVX	662530 <b>50110</b>			38A 60 KVS	699366 <b>86170</b>
	8	10	45	2	3SG 60 LVX*	662530 <b>55956</b>				
100x40x32	8	10	45	2	3SG 46 KVX	662530 <b>50112</b>	SGB 60 JVX	662530 <b>50130</b>	38A 54 KVS	699366 <b>86224</b>
	8	10	45	2	3SG 60 KVX	662530 <b>50114</b>			38A 60 KVS	699366 <b>86169</b>
	8	10	45	2					38A 60 LVS	699366 <b>88495</b>
125x40x20	8	10	45	2	3SG 46 KVX	699366 <b>86770</b>			38A 46 JVS	699366 <b>88603</b>
125x40x32	8	10	45	2	5SG 46 KVX	662530 <b>50122</b>	SGB 60 JVX	699366 <b>82429</b>	38A 46 KVS	699366 <b>86175</b>
	8	10	45	2	3SG 60 KVX	662530 <b>50116</b>			38A 60 JVS	662530 <b>50104</b>
	8	10	45	2					38A 60 KVS	699366 <b>86176</b>
	8	10	45	2					38A 80 KVS	662530 <b>50106</b>
125x45x20	6	13	45	2	3SG 46 KVX**	662530 <b>55954</b>	SGB 60 KVX	699366 <b>86736</b>	38A 60 LVS	699366 <b>88494</b>
	6	13	45	2	3SG 60 KVX**	662530 <b>55955</b>			86 A 46 KVTECH	662530 <b>50102</b>
150x50x20	10	13	45	2					38A 60 KVS	699366 <b>82567</b>
150x50x32	10	13	45	2	3SG 60 KVX	662530 <b>50119</b>	SGB 46 KVX	699366 <b>88939</b>	38A 46 KVS	699366 <b>86177</b>
	10	13	45	2			SGB 46 JVX	662530 <b>50133</b>	38A 60 KVS	699366 <b>82576</b>
	10	13	45	2			SGB 54 KVX	662530 <b>50140</b>		
	10	13	45	2			SGB 60 KVX	662530 <b>50134</b>		

\*Type 11R \*\*Type11F

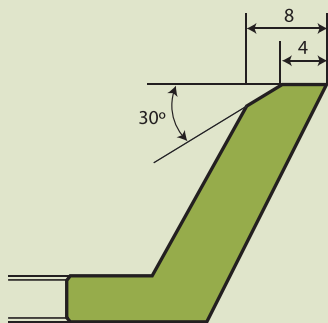
## NON-FERROUS PRECISION

DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	GOOD					
 Type 06										
100x50x20	10	10	45	2			39C 80 KV			699366 <b>68290</b>
	10	13	45	2			39C 80 JVS			699366 <b>40131</b>
100x50x32	10	10	45	2			39C 60 JV			699366 <b>68288</b>
125x63x32	25	16	45	2			39C 60 JV			699366 <b>68305</b>
150x32x60	32	13	45	2			39C 80 JV			699366 <b>68308</b>
200x40x76,2	40	13	45	2			39C 60 JV			699366 <b>68347</b>
	40	13	45	2			39C 80 JV			699366 <b>68348</b>
	40	13	45	2			39C 120 JV			699366 <b>68353</b>
300x63x127	40	20	45	1			39C 60 JV			699366 <b>68365</b>

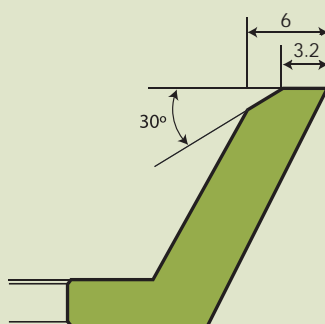
Dimensions Key: DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore, W = Rim Width, E = Back Thickness

SHAPE KEY

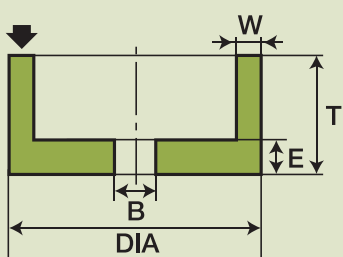
Type 11R



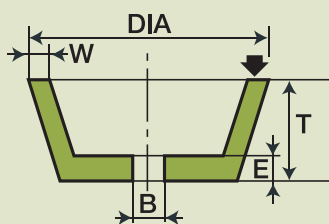
Type 11F



Type 06



Type 11





Cylinders are relatively soft and have a thin contact area. They are normally used in a chuck or fixed to a plate. The part is held on a table and either reciprocates or turns in a clockwise direction. To improve safety, cylinders are bound with layers of multi-filament high strength tape.

## APPLICATIONS & MARKETS

- Surface grinding



BETTER	<b>SGB®</b> <span style="float: right;">Type 02</span>		
	FEATURES	BENEFITS	
	<ul style="list-style-type: none"> <li>■ Medium concentration of ceramic aluminium oxide abrasive</li> <li>■ Harder &amp; sharper than conventional abrasive grains</li> </ul>	<ul style="list-style-type: none"> <li>■ Good cutting capability</li> <li>■ Suitable for low to medium power machines</li> <li>■ Very versatile, for use on a wide variety of steels</li> </ul>	

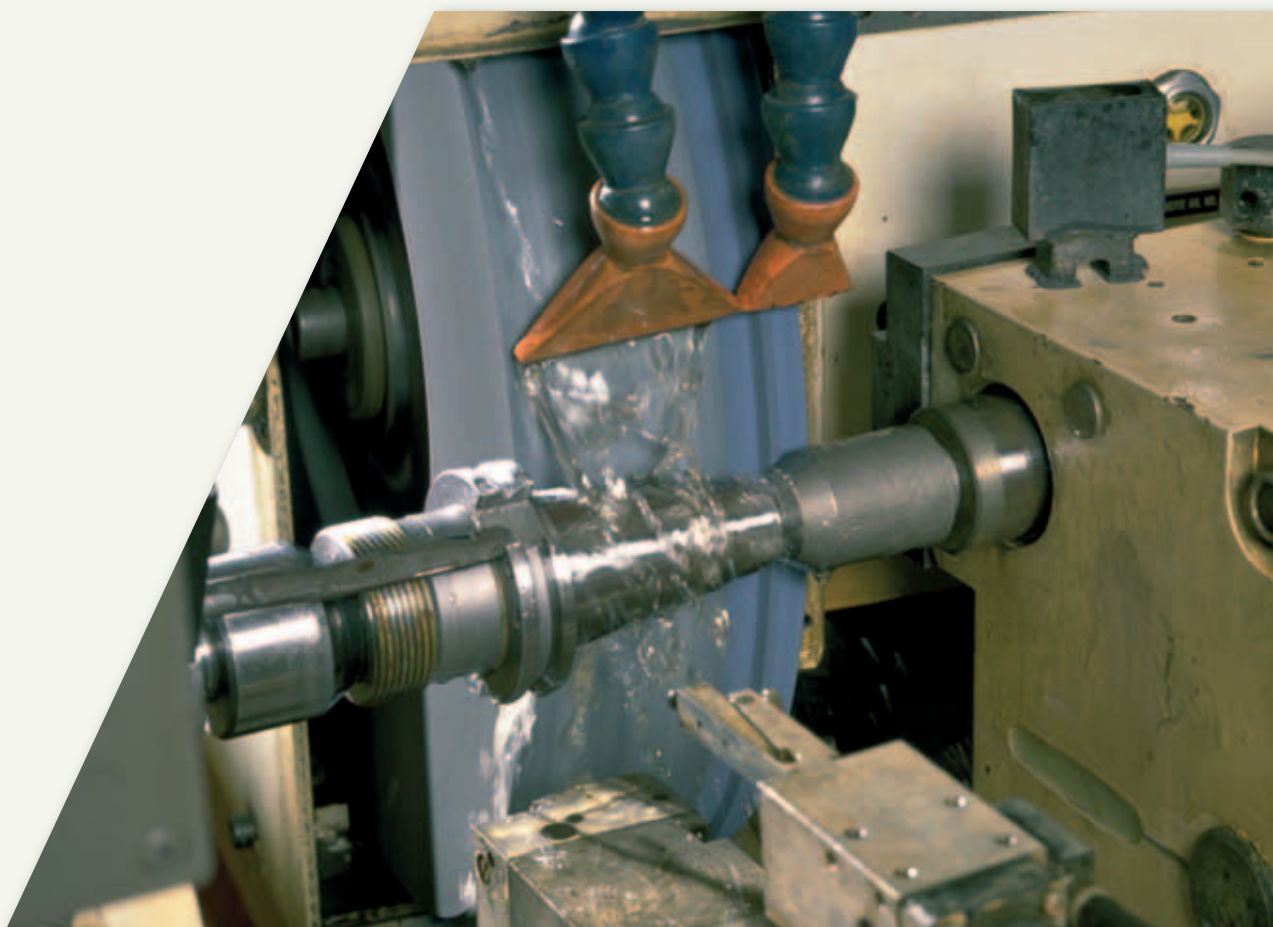
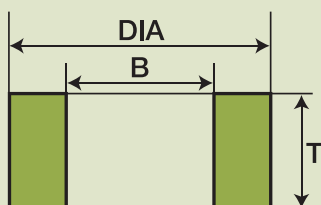
GOOD	<b>38A</b> <span style="float: right;">Type 02</span>		
	FEATURES	BENEFITS	
	<ul style="list-style-type: none"> <li>■ High purity white aluminium oxide abrasive</li> <li>■ Friable abrasive</li> </ul>	<ul style="list-style-type: none"> <li>■ Cool and burn free cutting</li> <li>■ Ideal for heat-sensitive applications with light to moderate feed rates</li> </ul>	

## CYLINDERS

DIM DIAxTxB(mm)	PK QTY	MOS (M/S)	BETTER		GOOD	
<div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: black; margin-right: 5px;"></div> <span>Type 02</span> </div>						
127x50x101,6	2	45			38A 46 IVS	699366 <b>23695</b>
152,4x50x127	2	45			38A 36 IVS	699366 <b>23639</b>
200x100x160	2	45	SGB 46 HVX	699366 <b>86693</b>	38A 46 GVS	699366 <b>86231</b>
254x100x204	1	45			38A 46 GVS	699366 <b>86297</b>
457x125x377	1	45			38A 30 HVS	662434 <b>65839</b>

## SHAPE KEY

Type 02

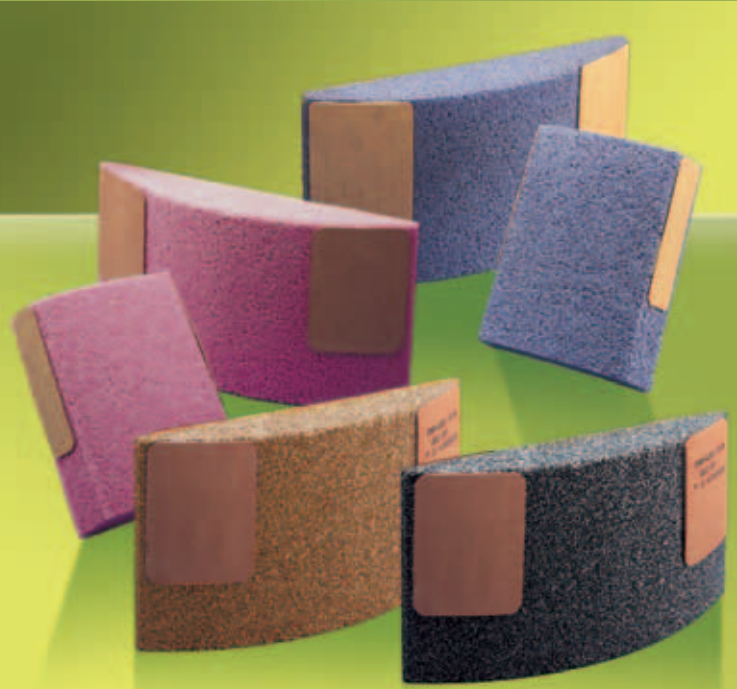


**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

Surface grinding segments are generally used to grind flat stock or flat surfaces within a workpiece. Applications can vary from heavy, rapid stock removal to precision tolerance operations.

#### APPLICATIONS & MARKETS

- Grinding large moulds & dies
- Sharpening knives, blades, cutlery



### 5SG®

 Type 31

#### FEATURES

- Very high concentration of SG® ceramic aluminium oxide abrasive

#### BENEFITS

- Ultimate cutting capability
- High removal rate & extended product life
- Perfect for technical applications where grinding parameters can be adjusted to optimise performance



### 3SG®

 Type 31

#### FEATURES

- High concentration of SG® ceramic aluminium oxide abrasive
- Unique, self sharpening, microcrystalline structure

#### BENEFITS

- Very high cutting capability
- High removal rate & extended product life
- Suitable for very hard steels



BEST

**GOOD**

## 38A

 Type 31

### FEATURES

- High purity white aluminium oxide abrasive
- Friable abrasive

### BENEFITS

- Cool & burn free cutting
- Ideal for heat-sensitive applications with light to moderate feed rates



## 86A

 Type 31

### FEATURES

- Highly refined pink aluminium oxide abrasive
- Tougher than pure white aluminium oxide abrasive
- Good profile holding
- Contains a small portion of chromium oxide abrasive

### BENEFITS

- Very versatile
- Reduced dress frequency
- Better part geometry



## 19A

 Type 31

### FEATURES

- A blend of A & 38A abrasives
- Primarily used in saw grinding applications

### BENEFITS

- Very versatile, for use on a wide variety of steels
- Very good yield, good removal rate
- Good balance between cut rate & form holding ability



## 37C

 Type 31

### FEATURES

- High purity black silicon carbide abrasive
- Harder & more friable than aluminum oxide abrasive

### BENEFITS

- Suitable for roughing operations in coarse grit & resinoid wheels
- Ideal for grinding & sharpening applications on metal carbide & non-ferrous metals



## METAL PRECISION

 Type 31

SHAPE	DIM LxBxC(mm)	SEGMENT		PK QTY	BEST		GOOD	
		A(mm)	R(mm)					
SA	150x80x25			4			38A 30 IVS	699366 <b>86253</b>
SB	100x65x25	56,9	205	4			86A 30 IV TECH	662530 <b>50274</b>
SB	200x103x38	84,8	228,6	4	5SG 46 G12 VXP	662530 <b>55947</b>	38A 24 F12 VXP	699366 <b>25436</b>
SC	190x112,3x44,4	78,6	381	4			38A 30 G12 VXP	662530 <b>50262</b>
SD	110x70x20	47	100	4			86A 36 IV TECH	662530 <b>50288</b>
	110x70x20	47	100	4			86A 46 HV TECH	662530 <b>50272</b>
SE	90x50x16	45	91	4	3SG 36 IVX	662530 <b>55949</b>	38A 36 IVS	699366 <b>88543</b>
	90x50x16	45	91	4	3SG 46 HVX	662530 <b>50277</b>	38A 46 HVS	699366 <b>82335</b>
SE	110x53,5x16	47	89	4			38A 36 IVS	699366 <b>88485</b>
	110x53,5x16	47	89	4			38A 46 HVS	699366 <b>88614</b>
SO	60x65x20	58		4			86A 36 IV TECH	662530 <b>50269</b>
SO	90x42x20	38		4	3SG 46 HVX	662530 <b>50279</b>	38A 36 HVS	699366 <b>86257</b>
	90x42x20	38		4			38A 46 HVS	699366 <b>86263</b>
	90x42x20	38		4			38A 60 GVS	699366 <b>86264</b>
SO	110x50x25	43,5		4	3SG 46 GVX	662530 <b>50281</b>	38A 46 GVS	699366 <b>86266</b>
	110x50x25	43,5		4	3SG 60 GVX	662530 <b>50282</b>	38A 60 GVS	699366 <b>86267</b>
	110x50x25	43,5		4			19A 54 IVS	699366 <b>86249</b>
SO	110x60x22	54		4	3SG 36 HVX	662530 <b>50266</b>	38A 36 HVS	699366 <b>82248</b>
SO	110x70x25	64		4			38A 36 IVS	699366 <b>82640</b>
SO	121x59,5x21	48		4			38A 30 HVS	699366 <b>24796</b>
	121x59,5x21	48		4			38A 36 IVS	699366 <b>82231</b>
	121x59,5x21	48		4			86A 46 HV TECH	662530 <b>50264</b>
SO	150x70x25	64		4	3SG 36 E12 VXP	699366 <b>88295</b>	38A 30 IVS	699366 <b>82296</b>
	150x70x25	64		4	3SG 36 HVX	662530 <b>50285</b>	38A 36 IVS	699366 <b>86248</b>
SO	180x103x38	94		4	3SG 36 HVX	662530 <b>50287</b>	38A 30 IVS	699366 <b>86273</b>



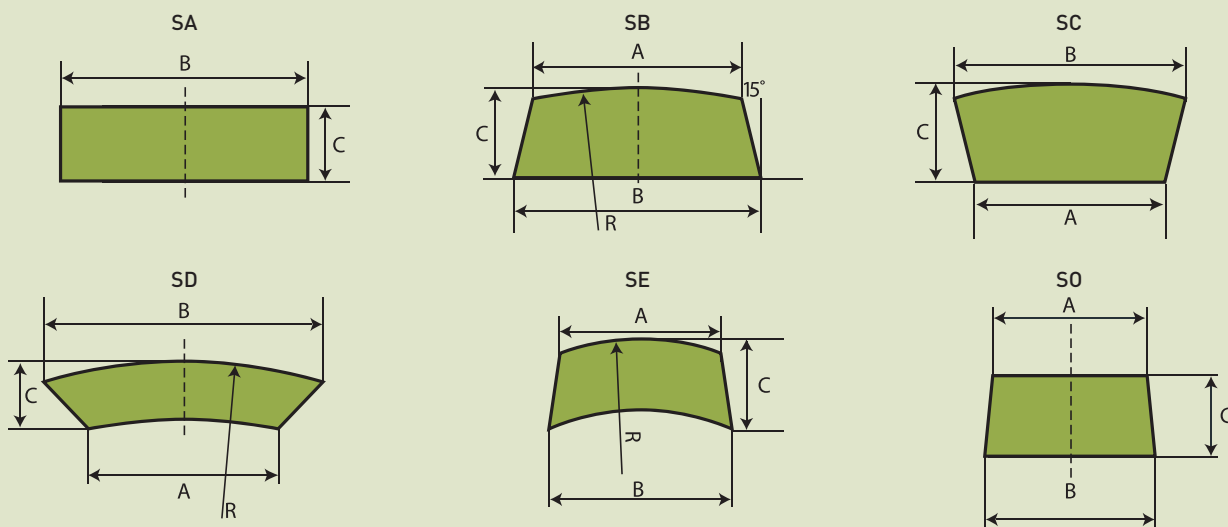
**Dimensions Key:** DIM = Dimensions, L = Length, B = Width, C = Thickness, A = Segment, R = Segment External Radius

## NON-FERROUS PRECISION

 Type 31

SHAPE	DIM LxBxC(mm)	SEGMENT		PK QTY	GOOD	
		A(mm)	R(mm)			
SB	100x65x25	56,9	205	4	37C 30 HV	699366 <b>88426</b>
SO	110x70x25	64		4	37C 24 IV	699366 <b>83895</b>

### SHAPE KEY TYPE 31



## DIAMOND DRESSING

- Norton offers an extensive range of complimentary diamond dressing solutions. For more information see page 364.



# MOUNTED POINTS & WHEELS


Norton offers high quality vitrified mounted points, available in a full range of standard shapes and spindles.

## APPLICATIONS & MARKETS

- Deburring
- Blending
- Finishing



GOOD	86A	
	FEATURES	BENEFITS
	■ Highly refined pink aluminium oxide abrasive	■ Very versatile
	■ Tougher than pure white aluminium oxide abrasive	■ Reduced dress frequency
	■ Good profile holding	■ Better part geometry
■ Contains a small portion of chromium oxide abrasive		



## MOUNTED POINTS SHAPE A

SHAPE	DIM DIxL(mm)	SPINDLE DIxL(mm)	MOS (RPM)	PK QTY	GOOD	
A1	22x70	6x40	14000	10	86A 36 PVS	662530 <b>55235</b>
	22x70	6x40	14000	10	86A 60 PVS	662530 <b>55218</b>
A3	20x65	6x40	15000	10	86A 30 PVS	662530 <b>55021</b>
	20x65	6x40	15000	10	86A 60 PVS	662530 <b>55212</b>
A4	30x30	6x40	20000	10	86A 36 PVS	662530 <b>55179</b>
	30x30	6x40	20000	10	86A 60 PVS	662530 <b>54956</b>
A5	20x28	6x40	30000	10	86A 60 PVS	662530 <b>55094</b>
A7	30x50	6x40	13000	10	86A 30 PVS	662530 <b>55022</b>
A8	20x50	6x40	18000	10	86A 36 PVS	662530 <b>55308</b>
	20x50	6x40	18000	10	86A 60 PVS	662530 <b>55877</b>
A9	30x50	6x40	13000	10	86A 30 PVS	662530 <b>55395</b>
A10	22x70	6x40	14000	10	86A 36 PVS	662530 <b>55237</b>
A11	21x45	6x40	18000	10	86A 30 PVS	662530 <b>55307</b>
	21x45	6x40	18000	10	86A 36 PVS	662530 <b>55095</b>
	21x45	6x40	18000	10	86A 46 PVS	662530 <b>55023</b>
	21x45	6x40	18000	20	86A 60 PVS	662530 <b>55214</b>

## MOUNTED POINTS SHAPE A (CONTINUED)

SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GOOD	
A12	18x30	6x40	30000	10	86A 36 PVS	66253054962
	20x32	6x40	30000	10	86A 60 PVS	66253055096
A13	25x25	6x40	25000	10	86A 60 PVS	66253055125
A14	18x22	6x40	35000	10	86A 60 PVS	66253055180
A15	6x25	6x40	30000	10	86A 90 PVS	66253055126
A19	30x50	6x40	13000	10	86A 36 PVS	66253054960
	30x50	6x40	13000	10	86A 60 PVS	66253054961
A20	40x50	6x40	10000	10	86A 36 PVS	66253054963
A21	25x25	6x40	25000	10	86A 36 PVS	66253055238
	25x25	6x40	25000	10	86A 60 PVS	66253054965
A24	6x20	6x40	41000	10	86A 60 PVS	66253055127
	6x20	6x40	41000	10	86A 90 PVS	66253055311
A25	25x25	6x40	25000	10	86A 60 PVS	66253055128
A26	16x16	6x40	54000	10	86A 46 PVS	66253055204
	16x16	6x40	54000	10	86A 90 PVS	66253054952
A36	40x10	6x40	25000	10	86A 60 PVS	66253055129
	40x10	6x40	25000	10	86A 90 PVS	66253054968
A37	30x6	6x40	30000	10	86A 90 PVS	66253055313
A38	25x25	6x40	25000	10	86A 60 PVS	66253054966

## MOUNTED POINTS SHAPE B

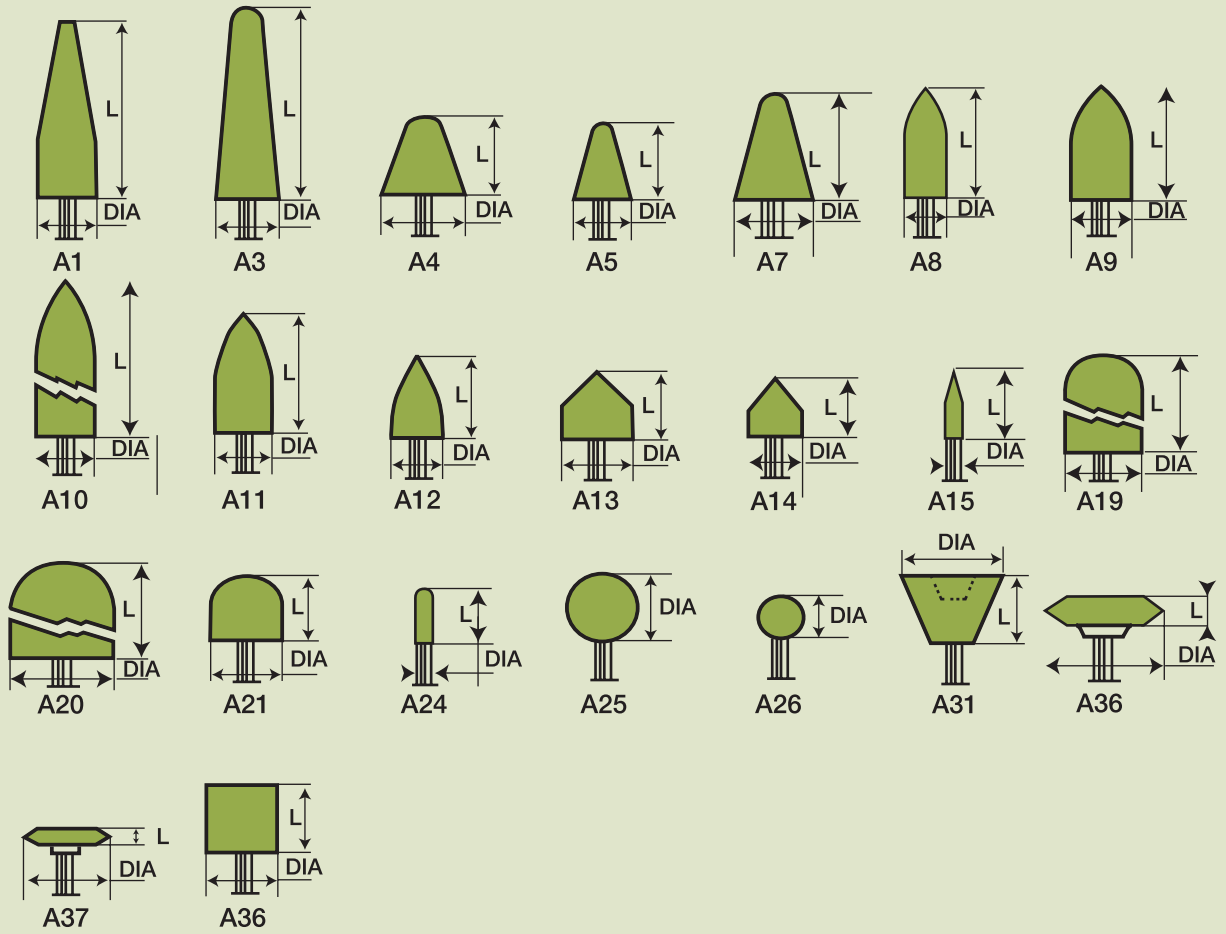
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GOOD	
B44	6x10	3x40	61000	10	86A 90 PVS	66253055183
B46	3x8	3x40	90000	10	86A 90 PVS	66253055185
B51	11x20	3x40	41000	10	86A 90 PVS	66253055402
B52	10x20	3x40	41000	10	86A 90 PVS	66253055232
B53	6x16	3x40	54000	10	86A 90 PVS	66253055305
	6x16	3x40	54000	10	86A 120 PVS	66253055090
B54	6x13	3x40	54000	10	86A 90 PVS	66253055139
B55	3x6	3x40	90000	10	86A 90 PVS	66253055401
B61	20x8	3x40	47000	10	86A 90 PVS	66253055020
B81	20x4	3x40	47000	10	86A 90 PVS	66253055140
B91	13x16	3x40	58000	10	86A 90 PVS	66253055199
B97	3x10	3x40	90000	10	86A 90 PVS	66253055141
B121	13x13	3x40	58000	10	86A 90 PVS	66253055143
B123	5x5	3x40	73000	10	86A 90 PVS	66253055207

## MOUNTED POINTS SHAPE C

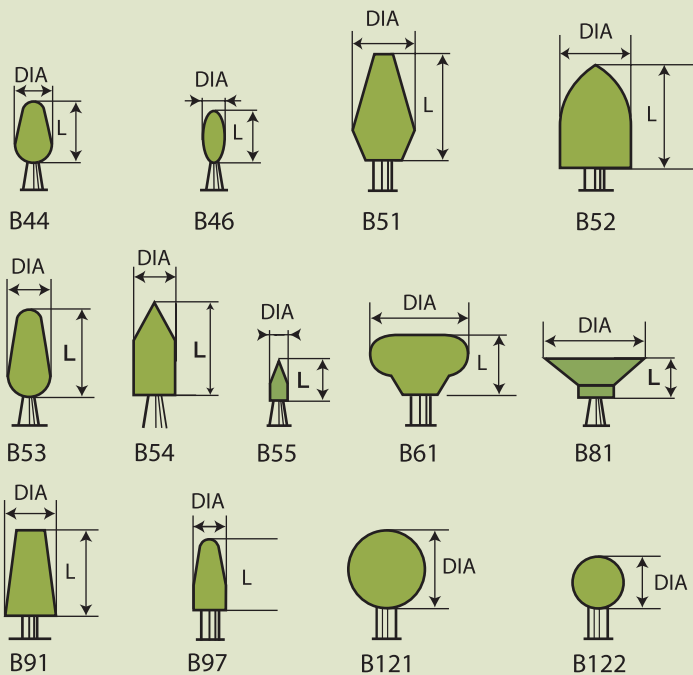
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GOOD	
C262	16x32	6x40	25000	10	86A 90 PVS	66253055217
	16x32	6x40	25000	10	86A 150 PVS	66253055025
C263	20x32	6x40	30000	10	86A 60 PVS	66253055177

Dimensions Key: DIM = Dimensions, DIA = Diameter, L = Length

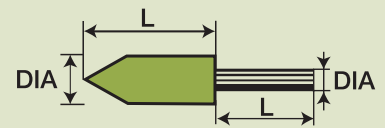
## SHAPE A KEY



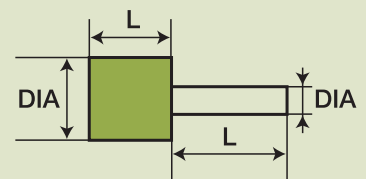
## SHAPE B KEY



## SHAPE C KEY



## SHAPE W KEY



## MOUNTED WHEELS

SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GOOD	
W144	3x6	3x40	90000	10	86A 60 PVS	662530 <b>55396</b>
	3x6	3x40	90000	10	86A 90 PVS	662530 <b>55147</b>
	3x6	3x40	90000	10	86A 100 PVS	662530 <b>55036</b>
W145	3x10	3x40	90000	10	86A 90 PVS	662530 <b>55145</b>
W146	3x13	3x40	80000	10	86A 90 PVS	662530 <b>55148</b>
W149	4x6	3x40	80000	10	86A 90 PVS	662530 <b>55150</b>
W153	5x10	3x40	73000	10	86A 90 PVS	662530 <b>55160</b>
W154	5x13	3x40	70000	10	86A 90 PVS	662530 <b>55162</b>
W160	6x6	3x40	61000	10	86A 90 PVS	662530 <b>55164</b>
W161	6x8	3x40	61000	10	86A 90PVS	662530 <b>55306</b>
W162	6x10	6x40	61000	10	86A 60 PVS	662530 <b>55166</b>
	6x10	6x40	61000	10	86A 90 PVS	662530 <b>55206</b>
W163	6x13	6x40	54000	10	86A 60 PVS	662530 <b>55210</b>
	6x13	3x40	54000	10	86A 90 PVS	662530 <b>55167</b>
W164	6x20	3x40	41000	10	86A 90 PVS	662530 <b>55168</b>
W169	8x10	3x40	61000	10	86A 60 PVS	662530 <b>55398</b>
	8x10	3x40	61000	10	86A 90 PVS	662530 <b>55241</b>
W170	8x13	3x40	54000	10	86A 60 PVS	662530 <b>55248</b>
W171	8x20	3x40	41000	10	86A 60 PVS	662530 <b>55171</b>
	8x20	3x40	41000	10	86A 90 PVS	662530 <b>55208</b>
W175	10x10	3x40	61000	10	86A 80 PVS	662530 <b>55202</b>
	10x10	3x40	61000	10	86A 90 PVS	662530 <b>55173</b>
W176	10x13	3x40	54000	10	86A 60 PVS	662530 <b>55315</b>
	10x13	3x40	54000	10	86A 90 PVS	662530 <b>55176</b>
W177	10x20	6x40	41000	10	86A 60 PVS	662530 <b>55092</b>
	10x20	3x40	41000	10	86A 90 PVS	662530 <b>55203</b>
W179	10x32	3x40	25000	10	86A 60 PVS	662530 <b>55223</b>
	10x32	3x40	25000	10	86A 90 PVS	662530 <b>55346</b>
W185	13x13	6x40	58000	10	86A 90 PVS	662530 <b>55211</b>
W186	13x20	6x40	48000	10	86A 46 PVS	662530 <b>55250</b>
	13x20	3x40	48000	10	86A 60 PVS	662530 <b>54953</b>
	13x20	6x40	48000	10	86A 90 PVS	662530 <b>54970</b>
W188	13x40	6x40	20000	10	86A 46 PVS	662530 <b>54972</b>
	13x40	6x40	20000	10	86A 90 PVS	662530 <b>55131</b>
W195	16x20	3x40	47000	10	86A 46 PVS	662530 <b>55351</b>
	16x20	6x40	47000	10	86A 60 PVS	662530 <b>55091</b>
	16x20	3x40	47000	10	86A 90 PVS	662530 <b>55133</b>
W196	16x25	6x40	35000	10	86A 46 PVS	662530 <b>55357</b>
	16x25	6x40	35000	10	86A 90 PVS	662530 <b>54973</b>
W197	16x50	6x40	18000	10	86A 46 PVS	662530 <b>55213</b>
	16x50	6x40	18000	10	86A 90 PVS	662530 <b>55010</b>
W204	20x20	6x40	42000	10	86A 36 PVS	662530 <b>55181</b>
	20x20	6x40	42000	10	86A 60 PVS	662530 <b>55134</b>

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length

## MOUNTED WHEELS (CONTINUED)

SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GOOD	
W205	20x25	6x40	32000	10	86A 36 PVS	662530 <b>54948</b>
	20x25	6x40	32000	10	86A 60 PVS	662530 <b>55135</b>
W206	20x32	6x40	30000	10	86A 36 PVS	662530 <b>55233</b>
	20x32	6x40	30000	10	86A 60 PVS	662530 <b>55013</b>
W207	20x40	6x40	24000	10	86A 46 PVS	662530 <b>55089</b>
W215	25x3	3x40	38000	10	86A 90 PVS	662530 <b>55358</b>
W220	25x25	6x40	25000	10	86A 36 PVS	662530 <b>55231</b>
	25x25	6x40	25000	10	86A 46 PVS	662530 <b>55014</b>
	25x25	6x40	25000	10	86A 60 PVS	662530 <b>55136</b>
W221	25x40	6x40	19000	10	86A 36 PVS	662530 <b>55016</b>
W225	32x6	6x40	27000	10	86A 60 PVS	662530 <b>55137</b>
W228	32x20	6x40	24000	10	86A 36 PVS	662530 <b>55017</b>
	32x20	6x40	24000	10	86A 60 PVS	662530 <b>55087</b>
W230	32x32	6x40	17000	10	86A 36 PVS	662530 <b>55221</b>
	32x32	6x40	17000	10	86A 46 PVS	662530 <b>55064</b>
	32x32	6x40	17000	10	86A 60 PVS	662530 <b>55138</b>
W232	32x50	6x40	11000	10	86A 36 PVS	662530 <b>55252</b>
	32x50	6x40	11000	10	86A 60 PVS	662530 <b>55300</b>
W236	40x13	6x40	25000	10	86A 46 PVS	662530 <b>55224</b>
	40x13	6x40	25000	10	86A 60 PVS	662530 <b>55304</b>
	40x13	6x40	25000	10	86A 90 PVS	662530 <b>55301</b>
W237	40x25	6x40	19000	10	86A 36 PVS	662530 <b>55215</b>
	40x25	6x40	19000	10	86A 46 PVS	662530 <b>55093</b>
W238	40x40	6x40	12000	10	86A 36 PVS	662530 <b>55019</b>
	40x40	6x40	12000	10	86A 60 PVS	662530 <b>55065</b>

## SPEC CHECK

- Use 36 grit & coarser for rough grinding
- Use 60 grit for imparting fine finishes or when grinding on narrow surfaces

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length



Regular use of properly selected dressing sticks will help you achieve maximum performance from your vitrified wheels.

**APPLICATIONS & MARKETS**

- Truing, cleaning & dressing Diamond, CBN & conventional abrasive wheels



BEST	<b>NORBIDE</b>		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>Manufactured from sintered boron carbide</li> <li>Extremely hard &amp; very dense</li> </ul>	<ul style="list-style-type: none"> <li>Excellent chemical &amp; wear resistance</li> <li>Long product life, reduced maintenance &amp; less downtime</li> <li>Suitable also for dressing tool &amp; cutter wheels 200mm &amp; smaller, especially cup &amp; dish shapes</li> </ul>	

BETTER	<b>39C</b>		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>Highest purity green silicon carbide abrasive</li> <li>Harder &amp; more friable than aluminium oxide abrasive</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for dressing conventional vitrified grinding wheels</li> <li>Outperforms 37C for better cutting efficiency &amp; longer life</li> </ul>	

**GOOD**

### 38A

**FEATURES**

- High purity white aluminium oxide abrasive
- Friable abrasive

**BENEFITS**

- Ideal for dressing CBN Super Abrasive wheels



### 37C

**FEATURES**

- High purity black silicon carbide abrasive
- Harder & more friable than aluminium oxide abrasive

**BENEFITS**

- Ideal for dressing conventional vitrified grinding wheels



## DRESSING STICKS FOR SUPER ABRASIVE GRINDING WHEELS



### RECTANGULAR

DIM WxHxL(mm)	PK QTY	GOOD	
13x25x150	10	38A 150 HVBE	614636 <b>05565</b>
	10	38A 220 HVBE	614636 <b>05066</b>
	10	38A 320 HVBE	699366 <b>84889</b>



### SQUARE

DIM WxHxL(mm)	PK QTY	GOOD	
13x13x150	10	37C 80 MV	699366 <b>85063</b>
20x20x100	10	38A 220 HVS	699366 <b>82631</b>
	10	38A 150 IVBE	699366 <b>82314</b>
	10	37C 320 HV	662434 <b>53547</b>
20x20x200	10	38A 150 HVBE	699366 <b>85064</b>
	10	38A 220 IVBE	614636 <b>03606</b>

## SPEC CHECK

- Use 38A dressing sticks to dress CBN wheels
- Use 37C dressing sticks to dress Diamond wheels

**Dimensions Key:** DIM = Dimensions, W = Width, H = Height, L = Length

### DRESSING STICKS FOR BONDED ABRASIVE GRINDING WHEELS



#### RECTANGULAR

DIM WxHxL(mm)	PK QTY	GOOD	
5x12,7x76,2	1	NORBIDE	614636 <b>10148</b>
25x50x200	10	37C 24 TV	699366 <b>85072</b>



#### SQUARE

DIM WxHxL(mm)	PK QTY	GOOD	
25x25x150	10	37C 30 UV	699366 <b>24620</b>



#### ROUND

DIM DIAxL(mm)	PK QTY	GOOD	
25,4x203,2	10	37C 30 TV	614636 <b>25024</b>

### GENERAL PURPOSE DRESSING STICKS



#### RECTANGULAR

DIM WxHxL(mm)	PK QTY	GOOD	
13x25x150	10	38A 220 KV	662434 <b>60886</b>
25x50x200	10	39C 60 KV	699366 <b>85066</b>

Dimensions Key: DIM = Dimensions, DIA = Diameter, W = Width, H = Height, L = Length

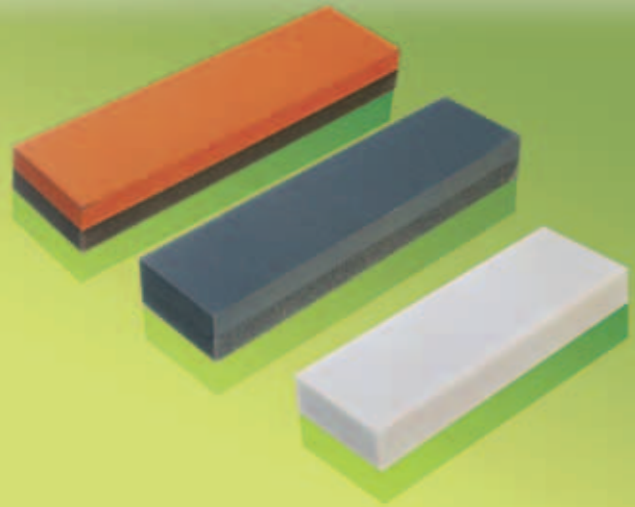


# BENCH & COMBINATION OIL STONES

Since 1823, Norton has been the leading supplier of benchstones, files, slips and rubbing bricks. Our comprehensive line of sharpening and finishing stones delivers superior performance solutions.

## APPLICATIONS & MARKETS

- Chisels
- Wood lathe cutters
- Knives
- Plane blades
- Precision tools & delicate instruments



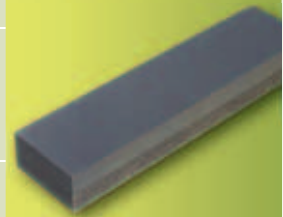
## CRYSTOLON

### FEATURES

- Premium silicon carbide abrasive
- Pre-filled with oil

### BENEFITS

- Fast cutting stone; ideal for general sharpening of cutting tools
- Fast stock removal for quick edge shaping with minimal loading
- Saves time by eliminating the need for pre-soaking prior to use



## INDIA

### FEATURES

- Smooth cutting aluminium oxide abrasive
- Norton's trademark for a fine finish
- Pre-filled with oil

### BENEFITS

- Long lasting cutting edge
- Ideal for cleaning, deburring & good quality finishes
- Saves time by eliminating the need for pre-soaking prior to use



## ARKANSAS

### FEATURES

- Natural premium Novaculite quarried in Arkansas & available in soft & hard
- Dense construction

### BENEFITS

- Sharpest possible razor edges
- Near mirror finishes
- Use for finer honing after India stone
- Absorbs oil at a slower rate, hence does not require pre-filling



GOOD

# PRODUCT SELECTION

APPLICATION	COARSE / MEDIUM SHARPENING	FINE STONING
Carbide tool	Medium & coarse Crystolon Bench	Fine Crystolon Bench
	Coarse/fine Crystolon Combination	Coarse/fine Crystolon Combination
Steel tool	Medium & coarse India Bench	Fine India Bench
	Coarse/fine India Combination	Coarse/fine India Combination

## BENCH & COMBINATION OIL STONES



### BENCH STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
76x22x10	FBP3	5	Fine India	614636 <b>25077</b>
102x25x6	MB14	5	Medium India	614636 <b>85575</b>
	FB14	5	Fine India	614636 <b>85570</b>
102x25x13	CB24	5	Coarse India	614636 <b>85595</b>
	MB24	5	Medium India	614636 <b>85590</b>
	MJB24	5	Medium Crystolon	614636 <b>85480</b>
	FB24	5	Fine India	614636 <b>85585</b>
	FJB24	5	Fine Crystolon	614636 <b>85475</b>
	102x44x13	MB124	5	Medium India
127x51x16	MB35	5	Medium India	614636 <b>85605</b>
152x38x13	MB26	5	Medium India	614636 <b>26034</b>
152x51x19	HB6	5	Hard Arkansas	614636 <b>85660</b>
	UPB6	10	Medium India	614636 <b>90694</b>
152x51x25	CB6	5	Coarse India	614636 <b>85620</b>
	MB6	5	Medium India	614636 <b>85615</b>
	MJB6	5	Medium Crystolon	614636 <b>85505</b>
	FB6	5	Fine India	614636 <b>85610</b>
	FJB6	5	Fine Crystolon	614636 <b>85500</b>
203x51x25	CB8	5	Coarse India	614636 <b>85635</b>
	UPB8	5	Medium India	614636 <b>85755</b>
	MB8	5	Medium India	614636 <b>85630</b>
	FB8	5	Fine India	614636 <b>85625</b>

**Dimensions Key:** DIM = Dimensions, L = Length, W = Width, H = Height

## BENCH &amp; COMBINATION OIL STONES (CONTINUED)



## COMBINATION OIL STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
76x38x13	IB34	10	Coarse/Fine India	07660787630
102x25x13	IB24	5	Coarse/Fine India	61463626001
102x44x16	JB134	5	Coarse/Fine Crystolon	61463685440
	IB134	5	Coarse/Fine India	61463685550
127x51x19	JB45	5	Coarse/Fine Crystolon	61463685445
	IB45	5	Coarse/Fine India	61463685555
152x51x25	JB6	5	Coarse/Fine Crystolon	61463685450
	IB6	5	Coarse/Fine India	61463685560
152x64x25	IB20	5	Coarse/Fine India	61463626103
178x51x25	IB7	5	Coarse/Fine India	61463690647
203x51x25	JB8	5	Coarse/Fine Crystolon	61463685455
	IB8	5	Coarse/Fine India	61463625078



## PEN KNIFE STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
102x25x10	HB14	5	Hard Arkansas	61463687555
	SB14	5	Soft Arkansas	61463687565



Dimensions Key: DIM = Dimensions, L = Length, W = Width, H = Height



# ABRASIVE & PRECISION FILES

Norton abrasive files hold their shape while imparting the finest, most uniform finish on precision machine parts, and in tool and die making.

## APPLICATIONS & MARKETS

- Deburring
- Chamfering
- RADIUSING



## CRYSTOLON

### FEATURES

- Premium silicon carbide abrasive

### BENEFITS

- Ideal when a close tolerance is more important than the speed of cut



## INDIA

### FEATURES

- Smooth cutting aluminium oxide abrasive

### BENEFITS

- Ideal when a close tolerance is more important than the speed of cut



## ARKANSAS

### FEATURES

- Hard Novaculite abrasive quarried in Arkansas

### BENEFITS

- Produces the finest edge possible while maintaining tolerances unequalled by any other abrasive
- Produces a highly polished finish



GOOD

# PRODUCT SELECTION

APPLICATION	COARSE / MEDIUM SHARPENING	FINE STONING	FINISH HONING
Carbide tool	Medium Crystolon square		
Centre punches	Medium India triangle	Fine India triangle	
Countersinks	Coarse/medium India triangle	Fine India triangle	Hard Arkansas triangle
Form cutter	Coarse/medium India knife blade	Fine India knife blade	Hard Arkansas knife blade
Keyways	Coarse/medium India square	Fine India square	Hard Arkansas square
Lathe bits		Fine India square	Hard Arkansas square
Machine knife stone	Coarse Crystolon machine knife		
Magnetic chucks		India round	
Pointed	Medium India pointed		Hard Arkansas pointed
Precision machine knife	Medium India half round	Fine India half round	
Radius tools	Medium India round	Fine India round	Hard Arkansas round
Router bits		Fine India square	
Silversmith	Medium India Silversmith	Fine India Silversmith	
Tap threads		Fine India triangle	

## ABRASIVE FILES



### HALF ROUND

DIM LxH(mm)	TYPE	PK QTY	GOOD	
102x6	MF314	5	Medium India	614636 <b>86355</b>
102x8	MF324	5	Medium India	614636 <b>86370</b>
102x10	MF334	5	Medium India	614636 <b>86385</b>
	FF334	5	Fine India	614636 <b>86380</b>
102x13	MF344	5	Medium India	614636 <b>86400</b>
	FF344	5	Fine India	614636 <b>86395</b>

**Dimensions Key:** DIM = Dimensions, L = Length, H = Height

## ABRASIVE FILES (CONTINUED)



### ROUND

DIM LxDIA(mm)	TYPE	PK QTY	GOOD	
76x6	HF813	5	Hard Arkansas	614636 <b>86800</b>
102x3	MF212	5	Medium India	614636 <b>26143</b>
	FF212	5	Fine India	614636 <b>26076</b>
102x6	MF214	5	Medium India	614636 <b>86475</b>
	FF214	5	Fine India	614636 <b>86470</b>
	CF214	5	Coarse India	614636 <b>86480</b>
102x8	MF224	5	Medium India	614636 <b>26036</b>
	FF224	5	Fine India	614636 <b>26071</b>
102x10	MF234	5	Medium India	614636 <b>86490</b>
	FF234	5	Fine India	614636 <b>86485</b>
102x13	MF244	5	Medium India	614636 <b>86505</b>
	FF244	5	Fine India	614636 <b>86500</b>
152x10	MF236	5	Medium India	614636 <b>90575</b>
	FF236	5	Fine India	614636 <b>26106</b>
152x13	MF246	5	Medium India	614636 <b>86520</b>
	FF246	5	Fine India	614636 <b>86515</b>
152x16	MF256	5	Medium India	614636 <b>86535</b>
	FF256	5	Fine India	614636 <b>86530</b>
152x19	MF266	5	Medium India	614636 <b>86550</b>



### SQUARE

DIM LxH(mm)	TYPE	PK QTY	GOOD	
76x6	HF13	5	Hard Arkansas	614636 <b>86590</b>
76x10	HF33	5	Hard Arkansas	614636 <b>86595</b>
76x13	HF43	5	Hard Arkansas	614636 <b>86600</b>
102x6	FF14	5	Fine India	614636 <b>86065</b>
	MF14	5	Medium India	614636 <b>86070</b>
	CF14	5	Coarse India	614636 <b>86075</b>
102x8	FF24	5	Fine India	614636 <b>90673</b>
	MF24	5	Medium India	614636 <b>26072</b>
102x10	FF34	5	Fine India	614636 <b>86080</b>
	MF34	5	Medium India	614636 <b>86085</b>
	CF34	5	Coarse India	614636 <b>86090</b>
102x13	CF44	5	Coarse India	614636 <b>86105</b>
	FF44	5	Fine India	614636 <b>86095</b>
	MF44	5	Medium India	614636 <b>86100</b>
152x10	FF36	5	Fine India	614636 <b>26037</b>
	MF36	5	Medium India	614636 <b>26038</b>
152x13	CF46	5	Coarse India	614636 <b>86120</b>
	FF46	5	Fine India	614636 <b>86110</b>
	MF46	5	Medium India	614636 <b>86115</b>

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length, H = Height

## ABRASIVE FILES (CONTINUED)



## SQUARE (CONTINUED)

152x16	CF56	5	Coarse India	61463686135
	FF56	5	Fine India	61463686125
	MF56	5	Medium India	61463686130
152x19	CF66	5	Coarse India	61463686150
	FF66	5	Fine India	61463686140
	MF66	5	Medium India	61463686145
152x25	FF76	5	Fine India	61463686155
	MJF76	5	Medium Crystolon	61463625039
	MF76S	5	Medium India	61463626141



## TRIANGLE

DIM LxH(mm)	TYPE	PK QTY	GOOD	
76x6	HF113	5	Hard Arkansas	61463686620
76x10	HF133	5	Hard Arkansas	61463686625
76x13	HF143	5	Hard Arkansas	61463686630
102x6	MF114	5	Medium India	61463686235
	FF114	5	Fine India	61463686230
	CF114	5	Coarse India	61463686240
102x8	MF124	5	Medium India	61463626027
	FF124	5	Fine India	61463626028
102x10	MF134	5	Medium India	61463686250
	FF134	5	Fine India	61463686245
	CF134	5	Coarse India	61463686255
102x13	CF144	5	Coarse India	61463686270
	MF144	5	Medium India	61463686265
	FF144	5	Fine India	61463686260
152x10	MF136	5	Medium India	61463626090
	FF136	5	Fine India	61463626054
152x13	MF146	5	Medium India	61463686280
	MJF146	5	Medium Crystolon	61463625043
	FF146	5	Fine India	61463686275
152x16	MF156	5	Medium India	61463686295
	FF156	5	Fine India	61463686290
152x19	CF166	5	Coarse India	61463686315
	MF166	5	Medium India	61463686310
	MJF166	5	Medium Crystolon	61463625048
	FF166	5	Fine India	61463686305
152x25	MF176	5	Medium India	61463686325
	FF176	5	Fine India	61463686320
203x16	MF178	5	Medium India	61463626073
203x19	MF180	5	Medium India	61463626130
	FF180	5	Fine India	61463626082
254x25	CF182	5	Coarse India	61463626043
	MF182	5	Medium India	61463626074

## PRECISION FILES



### KNIFE BLADE FILES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
76x19x3	HF873	5	Hard Arkansas	61463686830
102x25x3	MF724	5	Medium India	61463686775
	FF724	5	Fine India	61463686770



### POINTED FILES

DIM LxH(mm)	TYPE	PK QTY	GOOD	
76x8	MF723	5	Medium India	61463686745
76x10x3	HF823	5	Hard Arkansas	61463686805



### SILVERSMITH FILES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
102x13x2	FF444	5	Fine India	61463686955
	MF444	5	Medium India	61463686960



**Dimensions Key:** DIM = Dimensions, L = Length, W = Width, H = Height



# ABRASIVE SLIPS & SPECIALTIES

Norton abrasive slips and specialty stones impart the finest, most uniform finish on a wide range of tools. These fast acting slips hold their shape and are long lasting.

## APPLICATIONS & MARKETS

- Honing
- Gear deburring
- Die cleaning
- Reshaping



## CRYSTOLON

### FEATURES

- Premium silicon carbide abrasive

### BENEFITS

- Fast cutting stone; ideal for general sharpening of cutting tools
- Fast stock removal for quick edge shaping with minimal loading



## INDIA

### FEATURES

- Smooth cutting aluminium oxide abrasive
- Norton's trademark for a fine finish

### BENEFITS

- Ideal when a close tolerance is more important than the speed of cut



## ARKANSAS

### FEATURES

- Natural premium Novaculite quarried in Arkansas & available in soft & hard

### BENEFITS

- Sharpest possible razor edges
- Near mirror finishes
- Use for finer honing after India stone



GOOD

# PRODUCT SELECTION

APPLICATION	COARSE / MEDIUM SHARPENING	FINE STONING	FINISH HONING
Carbide tools	Medium & Crystolon round edge slip	Fine Crystolon round edge slip	
	Coarse or medium Crystolon carbide tool slip	Fine Crystolon carbide tool slip	
Gouges (wood)		Fine India gouge Sharpening stone	
Leather	Medium Crystolon Tradesmen		
Milling cutter	Medium India round edge slip	Fine India round edge slip	Hard Arkansas round edge slip
Pen knife			Arkansas pen knife
Reamers	Medium India reamer stone	Fine India reamer stone	
Scythe stone	Scythe stone		
Steel tool			Rubber stick

## SLIP STONES

### CARBIDE TOOL SLIP STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
89x19x13	MJT63	5	Medium Crystolon	61463687290
	FJT63	5	Fine Crystolon	61463687285

### ROUND EDGE SLIP STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
102x25x11	MS14	5	Medium India	61463687140
	FS14	5	Fine India	61463687135
102x32x6	HS14	5	Hard Arkansas	61463687050
102x44x10	HS4	5	Hard Arkansas	61463687045
114x44x6	MJS24	5	Medium Crystolon	61463687080
	MS24	5	Medium India	61463687150
	FJS24	5	Fine Crystolon	61463687075
	FS24	5	Fine India	61463687145
114x44x10	MS34	5	Medium india	61463687165
	FS34	5	Fine India	61463687160
114x44x13	MJS44	5	Medium Crystolon	61463687095
	MS44	5	Medium India	61463687180
	FJS44	5	Fine Crystolon	61463687090
	FS44	5	Fine India	61463687175
114x54x16	MS54	5	Fine India	61463690656
127x25x8	MS15	5	Medium India	61463687195
	FS15	5	Fine India	61463687190

### CARVING TOOL SLIP STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
57x22x5	AS22	5	Hard Arkansas ultra-fine	61463687255

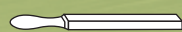
**Dimensions Key:** DIM = Dimensions, L = Length, W = Width, H = Height

## SPECIALITY STONES



### GOUGE SHARPENING STONE

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
152x51x35	FS76	5	Fine India	61463687305



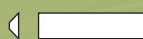
### TRADEMAN'S STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
241x35x13	JT911	5	Medium Crystolon	07660787938
254x32x19	JT930	5	Medium Crystolon	61463687675



### MACHINE KNIFE STONE

DIM DIAxH(mm)	TYPE	PK QTY	GOOD	
102x38	JB74	5	Coarse Crystolon	61463687570



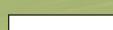
### REAMER STONES

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
127x25x5	FT125	5	Fine India	61463687430
	MT125	5	Medium India	61463687425
152x25x6	MT126	5	Medium India	61463687440



### RUBBING BRICK

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
203x51x51	BF28	5	Hand Crystolon	61463687845
203x89x38	235	5	Fluted Crystolon	61463687795



### SCYTHE STONE

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
240x35x13	TJ4	5	Scythe Stone	69936693133



### RUBBER STICK

DIM LxWxH(mm)	TYPE	PK QTY	GOOD	
200x10x20	-	5	A240FR96	69936625667

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length, W = Width, H = Height



# ORGANIC CUT-OFF WHEELS

Reinforced cut-off wheels contain fabric incorporated throughout the entire diameter which stops the wheel bending during operation. Non-reinforced cut-off wheels are only designed for use on fixed base machines, where the work is securely clamped, the wheel is adequately guarded and operating on a controlled cutting plane. They are suitable for use in dry or wet conditions, depending on bond type.



## APPLICATIONS & MARKETS

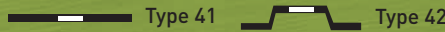
### REINFORCED CUT-OFF WHEELS

- Foundry – all steel types
- Aerospace
- Automotive

### NON-REINFORCED CUT-OFF WHEELS

- Saw sharpening
- Tool cut-off
- Lab cut-off
- Industrial cut-off

## 4NZ (TOROS)



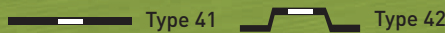
### FEATURES

- High concentration of zirconia oxide abrasive
- Extremely tough aluminium oxide abrasive

### BENEFITS

- Very long wheel life
- Very high cutting capability & high metal removal rate if high right pressure is applied: shelf re-sharpening
- Perfect for technical applications for premium performances

## 5NZ (TOROS)

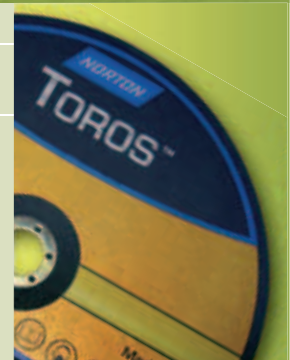
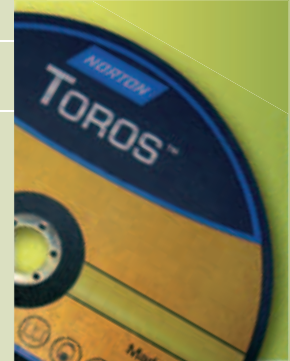


### FEATURES

- Medium concentration of zirconia oxide abrasive
- Extremely tough aluminium oxide abrasive

### BENEFITS

- Long wheel life
- Good metal removal rate
- Versatile: suitable for most steels



BEST

**BEST**

**XGP (TOROS)**

— Type 41

**FEATURES**

- Special combination of abrasive blends
- High durability with a good cutting capability

**BENEFITS**

- Very long wheel life & high metal removal rate
- Perfect for lab applications
- Suitable for use on all types of steel



**39C (TOROS)**

— Type 41

**FEATURES**

- Highest purity green silicon carbide abrasive
- Harder & more friable than aluminium oxide abrasive

**BENEFITS**

- Excellent to cut all non metals (titanium, aluminum, bronze)
- Extremely friable abrasive for better cutting efficiency & cut quality



**74C (TOROS)**

— Type 41

**FEATURES**

- Special blend silicon carbide abrasives
- More durable than the sharper 39C abrasive


**BENEFITS**

- Good wheel life, limited metal removal rate
- Good to cut aluminum, cast iron & bronze



**BETTER**

**U57A**

— Type 41     Type 42

**FEATURES**

- Specially treated brown aluminium oxide abrasive
- Tough & hard aluminium oxide abrasive
- Not suitable for use on extremely hard materials

**BENEFITS**

- Long wheel life
- Ideal for heavy duty applications



## 57A

 Type 41

## FEATURES

- Semifriable aluminium oxide abrasive
- Less tough than type A abrasive but offers better cutting quality
- Pointed shape

## BENEFITS

- Cool & burn free cutting
- Ideal for heat-sensitive applications with light to moderate feed rates
- Suitable for all steels
- Good compromise between cut quality & wheel life
- Very versatile: suitable for all steels



## A

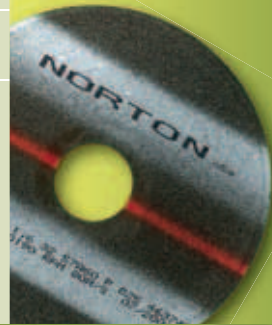
 Type 41

## FEATURES

- Tougher than pure white aluminium oxide abrasive
- General purpose abrasive suitable for most operations

## BENEFITS

- Good wheel life, limited metal removal rate
- Good for cutting medium to soft steels
- Economy product
- First choice for less technical applications



## 23A

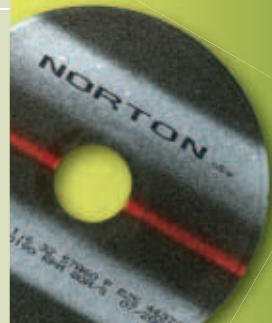
 Type 41

## FEATURES

- An abrasive blend of semifriable 57A aluminium oxide & white monocristalline 32A aluminium oxide

## BENEFITS

- Cool & burn free cutting
- Suitable for all steels
- Improved metal removal rate compared to 57A pure semifriable aluminium oxide abrasive



## SPEC CHECK

- **B24** New generation bond used on silicon carbide cut-off wheels that gives the best performance & the ultimate cut quality on non-ferrous metals in wet conditions
- **B25** Standard multi-purpose bond that offers durability & freeness of cut in a wide variety of materials & applications. Can also be used in wet cutting on softer grades
- **B26** New generation bond used on aluminium oxide cut-off wheels that gives the best performance & the ultimate cut quality on ferrous metals in wet conditions
- **BF1** Specific bond ensuring the best quality of cut in dry or wet conditions
- **BF3** New generation bond assuring the best wheel life in dry cutting operations; versatile & long wheel life. Ideal for heavy duty operations
- **B65** Traditional bond gives good performance & long wheel life in dry cutting conditions

## MAXIMUM OPERATING SPEED

SPEED STRIPE COLOUR	MOS (m/s)
Green	100
Red	80
Yellow	63

## NON-REINFORCED



DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BEST	GOOD
<b>Type 41</b>				
100x1x13	80	25		57A 60 PB25 662530 <b>56355</b>
100x1x20	80	25		23A 80 PB25 662530 <b>56356</b>
125x1x13	80	25		57A 60 PB25 662530 <b>56357</b>
125x1x16	80	25		23A 80 PB25 662530 <b>56358</b>
125x1x20	80	25		57A 60 PB25 662530 <b>56359</b>
150x1x13	80	25		23A 80 PB25 662530 <b>56361</b>
150x1x16	80	25		23A 80 PB25 662530 <b>56363</b>
150x1x20	80	25		23A 80 NB25 662530 <b>56367</b>
	80	25		23A 80 PB25 662530 <b>56368</b>
150x1x32	80	25		57A 60 PB25 662530 <b>56373</b>
150x1,6x16	80	25		23A 60 NB25 662530 <b>56362</b>
150x1,6x20	63	25		23A 60 LB25 662530 <b>56365</b>
	80	25		23A 60 NB25 662530 <b>56366</b>
	80	25		57A 60 PB25 662530 <b>56364</b>
150x1,6x31,75	80	25		57A 60 RB25 662530 <b>56371</b>
150x1,6x32	80	25		57A 60 NB25 662530 <b>56360</b>
	80	25		57A 60 PB25 662530 <b>56372</b>
150x2x20	80	25		23A 60 NB25 662530 <b>56370</b>
150x2x32	80	25		57A 60 PB25 662530 <b>56369</b>
150x3x32	80	25		57A 60 PB25 662530 <b>56374</b>
180x1,6x31,75	80	25		57A 60 PB25 662530 <b>56375</b>
	80	25		57A 60 RB25 662530 <b>56376</b>
200x1,5x20	63	10	XGP 70 FB26 (Toros) 662530 <b>60407</b>	
200x1,6x20	80	25		57A 60 PB25 662530 <b>56377</b>
200x1,6x32	80	25		57A 60 NB25 662530 <b>56382</b>
	80	25		57A 60 PB25 662530 <b>56380</b>
	80	25		57A 60 RB25 662530 <b>56381</b>
	80	25		57A 60 RB25 662530 <b>56381</b>
200x2x20	63	25		23A 60 LB25 662530 <b>56378</b>
200x2x25,4	80	25		57A 60 PB25 662530 <b>56379</b>
250x1,6x25,4	80	10		57A 60 NB25 662530 <b>56383</b>
250x1,6x32	63	10	39C 70 DB24 (Toros) 662530 <b>60408</b>	
	63	10	74C 70 FB24 (Toros) 662530 <b>60415</b>	
	63	10	XGP 70 EB26 (Toros) 662530 <b>60409</b>	
	63	10	XGP 70 FB26 (Toros) 662530 <b>60410</b>	
	63	10	XGP 70 HB26 (Toros) 662530 <b>60411</b>	
	63	10	XGP 70 JB26 (Toros) 662530 <b>60412</b>	

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

## NON-REINFORCED (CONTINUED)



DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BEST	GOOD
Type 41				
300x2x32	63	10	39C 70 DB24 (Toros)	662530 <b>60419</b>
	63	10	XGP 70 EB26 (Toros)	662530 <b>60418</b>
	63	10	XGP 70 FB26 (Toros)	662530 <b>60417</b>
350x2,5x32	63	10	39C 70 DB24 (Toros)	662530 <b>60423</b>
	63	10	74C 70 FB24 (Toros)	662530 <b>60422</b>
	63	10	XGP 70 EB26 (Toros)	662530 <b>60414</b>
	63	10	XGP 70 FB26 (Toros)	662530 <b>60420</b>
400x3x32	63	10	XGP 60 EB26 (Toros)	662530 <b>60425</b>
	63	10	XGP 60 FB26 (Toros)	662530 <b>60424</b>
450x3,5x32	63	10	XGP 60 EB26 (Toros)	662530 <b>60428</b>

## REINFORCEMENTS

- The main purpose of the fibreglass reinforcement in cut-off wheels is safety. Reinforcements also permit wheels to withstand high rotational speed & make them more flexible. Reinforcements can be external or internal, half or full diameter. Reinforcements impact the cutting profile, affecting both the straightness & quality of cut.

Straight Type 41

Depressed Centre Type 42

NA

NA2\*

NA3

NA4

NA6

DA6

DA8

\*NA2 is different from NA because it has lighter reinforcements

## SPEC CHECK

- Non-reinforced cut-off wheels are designed for use on "fixed base" machines where the work is securely clamped, guarded, & where the wheel operates on a controlled cutting plane
- Run the cut-off machine at the highest possible speed marked on the wheel
- Long life wheels should be used on a cut-off machine with 1 horsepower for every 25mm wheel diameter. With a less powerful machine, we recommend starting with a Free Cut specification

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

**REINFORCED**


DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BEST		BETTER		GOOD	
<b>Type 41</b>								
150x2x20	80	25			U57A 60 QB25 NA2	662530 <b>56384</b>		
200x2x20	80	25			U57A 60 QB25 NA2	662530 <b>56385</b>		
200x2x32	80	25			U57A 60 OB25 NA2	662530 <b>56386</b>		
300x3,5x25,4	80	10	4NZ 30 TB65 NA	662530 <b>56387</b>				
350x3,5x25,4	80	10	4NZ 30 TB65 NA	662530 <b>59172</b>				
	80	10	4NZ 30 TBF3 NA (Toros)	662530 <b>56388</b>				
400x4x25,4	80	10			U57A 24 TB65 NA	662530 <b>56389</b>		
400x4x32	80	10	4NZ 30 XBF3 NA (Toros)	662530 <b>59174</b>				
400x4,5x25,4	80	10	4NZ 30 XB25 NA	662530 <b>59175</b>				
	80	10	4NZ 30 YB65	662530 <b>56390</b>				
400x4,5x40	80	10					57A 24 PB25 NA4	662530 <b>59176</b>
500x4,5x25,4	80	10	4NZ 24 TB65 NA	662530 <b>56527</b>				
500x5x25,4	80	10					57A 24 TB25 NA (RC26)	662530 <b>56529</b>
	80	10	4NZ 30 XB25 NA	662530 <b>56535</b>				
500x5,5x25,4	80	10					57A 24 PB25 NA4	662530 <b>56533</b>
	80	10					57A 24 RB25 NA4 (TBDX METAL)	662530 <b>56536</b>
500x5,5x40	100	10			57A2 44 TBF1 NA4 (Toros)	662530 <b>56534</b>		
600x6,5x60	100	5					57A 24 PB25 NA6	662530 <b>57645</b>
600x7x60	100	5			U57A 24 VBF3 NA6 (Toros)	662530 <b>57646</b>		
600x7x76	100	5			U57A 24 RBF3 NA6 (Toros)	662530 <b>60717</b>		
<b>Type 42</b>								
400x5x76,2	80	10	4NZ 24 ZB25 DA8 (NZ 28 DR)	662530 <b>56523</b>	U57A 20 VB25 DA8 (UA26 DR)	662530 <b>56524</b>		
	80	10	5NZ 24 PBF3 DA6 (Toros)	662530 <b>56525</b>				
508x6x76,2	80	10	4NZ 24 ZB25 DA8 (NZ 28 DR)	662530 <b>56539</b>	U57A 20 RB25 DA8	662530 <b>56538</b>		
	80	10	5NZ 20 PBF3 DA6 (Toros)	662530 <b>56540</b>				



# ORGANIC SNAGGING WHEELS & CUPS






Norton offer a range of products for portable snagging foundry applications. Type 01 straight wheels are used on portable machine and Type 06 and 11 cup wheels on vertical grinders. Since finish tolerances are not usually critical, coarse, durable wheels are used with grit sizes ranging from 16 to 24.

## APPLICATIONS & MARKETS

- Foundries
- Welding shops
- Steel mills
- Forge shops



BEST	<b>ZF7A/ZF7C</b>  Type 01		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>■ Special design of abrasive blends</li> <li>■ High durability &amp; versatility</li> </ul>	<ul style="list-style-type: none"> <li>■ Very good compromise between wheel life &amp; metal removal rate</li> <li>■ ZF7A is premium product for all steels</li> <li>■ ZF7C is premium product for all non-ferrous metals</li> </ul>	

GOOD	<b>A/AZ</b>  Type 06  Type 11		
	<b>FEATURES</b>	<b>BENEFITS</b>	
	<ul style="list-style-type: none"> <li>■ Tougher than pure white aluminium oxide abrasive</li> <li>■ General purpose abrasive ideal for most operations</li> </ul>	<ul style="list-style-type: none"> <li>■ Long wheel life, limited metal removal rate</li> <li>■ AZ is a blend of aluminium oxide &amp; zirconia</li> <li>■ Good for cutting medium to soft steels</li> <li>■ Economy product</li> <li>■ First choice for less technical applications</li> </ul>	
	<b>C</b>  Type 11		
<b>FEATURES</b>	<b>BENEFITS</b>		
<ul style="list-style-type: none"> <li>■ Low purity black silicon carbide abrasive</li> <li>■ Harder &amp; more friable than aluminium type abrasives</li> </ul>	<ul style="list-style-type: none"> <li>■ Suitable for roughing operations in coarse grit &amp; resinoid wheels</li> <li>■ Ideal for grinding &amp; sharpening applications on metal carbide &amp; non-ferrous metals</li> <li>■ Cheap alternative, first choice if no technical specific requirement</li> </ul>		

## SPEC CHECK

- **B & B3** Foundry & portable wheels: multi-purpose bond that gives satisfactory results on most applications
- **B28** Foundry wheels: high level bond suitable for most technical applications requiring high powered machines

## PORTABLE SNAGGING

DIM DIAxTxB(mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY		GOOD
 <b>Type 01</b>						
50x10x10			50	20	A 24 TB	662530 <b>57648</b>
50x13x10			50	20	A 24 TB	662530 <b>57649</b>
50x20x10			50	20	A 24 PB	662530 <b>57650</b>
63x13x9,53			50	20	A 24 TB	662530 <b>57653</b>
			50	20	A 24 TB	662530 <b>57652</b>
63x13x10			50	20	A 24 RB	662530 <b>57651</b>
63x20x10			50	20	A 24 TB	662530 <b>57655</b>
70x20x10			50	20	A 24 PB	662530 <b>57656</b>
80x13x10			50	20	A 24 PB	662530 <b>57659</b>
			50	20	A 24 TB	662530 <b>57658</b>
100x20x20			50	20	A 24 RB	662530 <b>57660</b>
100x25x16			50	20	A 16 SB	662530 <b>57661</b>
100x25x20			50	20	A 16 SB	662530 <b>57662</b>
			50	20	A 24 PB	662530 <b>57663</b>
150x25x16			50	10	A 16 PB	662530 <b>57664</b>
200x20x32			50	10	A 24 QB	662530 <b>60720</b>
200x25x32			50	10	A 24 QB	662530 <b>60722</b>
 <b>Type 06</b>						
125x68x20	30	18	50	8	AZ 24 RB	662434 <b>50227</b>
 <b>Type 11</b>						
125x50xM14	25	20	50	10	A 20 MB	662435 <b>70663</b>
	25	20	50	10	C 20 PB	662435 <b>70664</b>
125x50xW5/8	25	20	50	10	A 20 PB	662435 <b>70671</b>
	25	20	50	4	C 16 NB	692104 <b>32282</b>
150x50xW5/8	33,3	20	50	8	A 16 PB	662530 <b>57666</b>
	32	20	50	8	A 20 MB	662530 <b>57668</b>
	40	20	50	4	C 16 NB	692104 <b>32287</b>

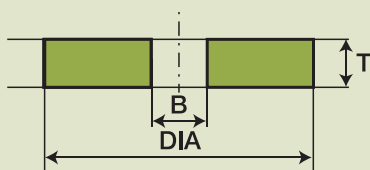
**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore, W = Rim Width, E = Back Thickness

## PEDESTAL SNAGGING

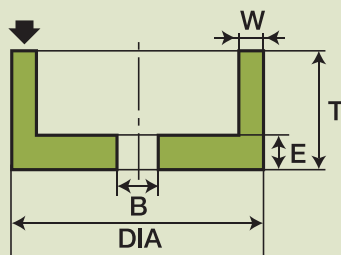
DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BEST		GOOD	
Type 01						
300x50x32	50	2			A 16 NB3	66253061993
	50	2			A 36 O6B3	66253061994
355x50x127	50	2			A 16 0B28	66253057667
400x50x127	50	2			A 24 QB3	66253060723
508x50x50	50	1	ZF7A 16 R5B3	66253057670		
508x50x127	50	1			A 16 NB28	66243570668
508x60x127	50	1	ZF7A 20 Q5B3	66253057673		
	50	1	ZF7A 16 R5B3	66253057671		
760x76x304,8	50	1	ZF7C 16 3PB28	66253057679		
760x80x304,8	50	1	ZF7A 14 3RB28	66253057675		
	50	1	ZF7A 16 3RB28	66253057676		

## SHAPE KEY

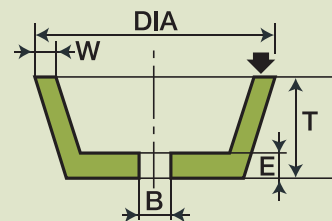
Type 01



Type 06



Type 11



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore



A mounted wheel is a small grinding wheel permanently fastened to its own spindle or mandrel. It can be used on a variety of machines for deburring, tool sharpening, finishing cavities and removing mould and marks. The Norton catalogue offers primarily shape W products, although other shapes are available on request. For use on all steel types, cast iron & superalloys.

## APPLICATIONS & MARKETS

- Foundries
- Steel mills
- Tool industry



## A

### FEATURES

- Tougher than pure white aluminium oxide abrasive
- General purpose abrasive for most operations

### BENEFITS

- Especially suited for carbon steel, HSS & alloyed steel
- Good for cutting medium hardness – soft steels
- First choice if no technical specific requirement

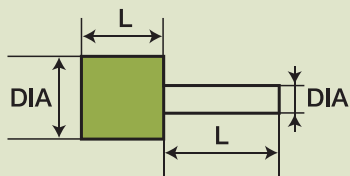


**BEST**

## ORGANIC MOUNTED WHEELS

SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	BEST	
W177	10x20	6x40	66000	20	A 46 QB	66253053220
W178	10x25	6x40	55200	20	A 46 QB	66253053221
W188	13x40	6x40	30370	20	A 36 QB	66253053225
	13x40	6x40	30370	20	A 46 QB	66253053226
W204	20x20	6x40	42750	20	A 46 QB	66253053229
W205	20x25	6x40	34500	20	A 36 QB	66253053230
	20x25	6x40	34500	20	A 46 QB	66253053231
W207	20x40	6x40	24000	20	A 46 QB	66253053232
W220	25x25	6x40	25500	20	A 36 QB	66253053239
	25x25	6x40	25500	20	A 46 QB	66253053237
W221	25x40	6x40	19120	20	A 46 QB	66253053243
W230	32x32	6x40	24000	20	A 36 QB	66253053250
	32x32	6x40	24000	20	A 46 QB	66253053248
W236	40x13	6x40	25130	20	A 46 QB	66253053251
W242	50x25	6x40	19100	20	A 46 QB	66253053252

### SHAPE W KEY



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length





**NORTON**

**340 INTRODUCTION**

**342 DIAMOND & CBN GRINDING WHEELS**

**360 ELECTROPLATED PINS**

**364 DIAMOND DRESSERS**

**372 DIAMOND LAPPING COMPOUNDS**

**374 FILES**

**Super  
Abrasives**

Diamond is the hardest material known to man, closely followed by Cubic Boron Nitride (CBN). As a result of their hardness, these materials find extensive use in the most demanding precision grinding, slicing, and cutting applications. Super Abrasive wheels are used to cut materials such as Carbide, High Speed Steel, Ceramics, and Glass.

Norton Super Abrasive products are the ultimate performance cutting tool to be used in grinding applications where materials hardness represents a challenge.

Norton, the industry's most comprehensive Super Abrasive product line.

## UNDERSTANDING THE PRODUCT

### ASD

#### ABRASIVE TYPE

Both diamond & cubic boron nitride have distinctive characteristics that provide a Super Abrasive product for the most demanding applications

**ASD:** Synthetic diamond, armored, high quality, versatile

**CB:** Cubic boron nitride, armored, durable

### 151

#### GRIT SIZE

Size of the Super Abrasive particles according to the FEPA standard.

The smaller the number, the finer the grit size (diameter approximately: 151~60µm, 46~15µm)

### R

#### GRADE

The term grade refers to the degree of durability of the wheel, progressing alphabetically from A (softest, least durable) to Z (hardest, most durable)

### 75

#### CONCENTRATION

Indicates the relative amount of Super Abrasives in the wheel. For CBN wheels the concentration number is included in the grade (Q=50, T=75, W=100), concentration 100~4,4 ct/cm<sup>3</sup>, & accordingly 50~2,2 ct/cm<sup>3</sup>. The optimum concentration depends upon the application

### B99

#### BOND

The bond is the element in a grinding wheel that holds the diamond or CBN grains together:

**B99:** High quality resin bond for wet & dry grinding

**Aztec IV:** Premium dry grinding bond for CBN wheels

## ABRASIVE TYPES

### DIAMOND

**ASD** Particularly suited to grind cemented carbides, ceramics & other non-metallic materials

**AMD** Suitable for metal bond

**DPS** Electroplated Diamond

### CBN

**CB** Super Abrasive choice for grinding high-speed steels & nickel based alloys over 50 HRc. CBN wheels provide the means for achieving excellent geometry whilst maintaining material integrity

**AZTEC** For dry sharpening operation

**XBS** Electroplated CBN

## GRIT SIZE

The grit size selection depends on the stock removal rate & the surface finish wanting to be achieved

NORTON GRIT SIZE		U.S. STANDARD	EUROPEAN (FEPA) SIZE
DIAMOND	CBN	MESH	
16	-	16/20	1182
24	24	20/30	892
36	36	30/40	602
-	-	35/40	501
-	46	40/50	427
50	-	50/60	427
-	60	50/60	301
60	-	60/70	301
-	80C	50/80	-
-	80	60/80	252
80	-	70/80	-
100	-	80/100	252
105	100	80/100	181
100S	120C	80/120	-
110	120	100/120	151
120	150	120/140	126
150	180	140/170	107
180	220	170/200	91
220	230	200/230	76
240	240	230/270	64
320	320	270/325	54
400	400	325/400	46

NOMINAL MICRON SIZE	NORTON GRIT SIZE	APPROXIMATE EUROPEAN (FEPA) SIZE
40/60	-	M63
30/40	500	M40
20/30	-	M25
10/20	600	M16
6/12	800	M10
4/8	-	M6,3
2/4	-	M4,0
0/2	-	M1,0

## CONCENTRATION

The concentration influences the stock removal rate & the geometry of the workpiece

**DIAMOND** 50/75/100/125                      **CBN** Q/T/W

## BOND TYPES

**RESIN: B99/XLB4847** Extremely versatile bond used in advanced products both for wet & dry applications

**AZTEC BX104** Premium teflon/silver bond used for dry application only in typical tool room applications

**METAL** M99

## DIFFERENTIATION IN THE RANGE

Norton offers the industry's widest selection of sharpening and grinding Super Abrasive wheels designed to meet every customer requirement. The range is classified into 2 tiers (Best/Better) to help you choose the right product for your specific application.

BEST	BETTER
High concentration (100/125 & W) / Premium bond xlb4847 & Aztec BX104	Medium & low concentration (50 & 75 for Dia and Q&T for CBN)

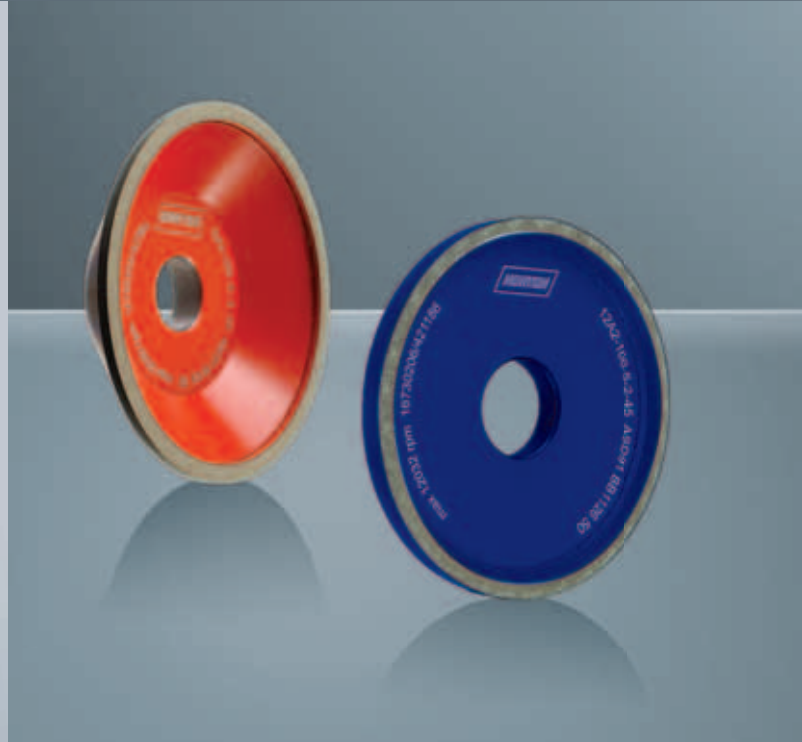
## COLOUR OF WHEELS



For further information please go to the Technical Information Section at the back of this catalogue.

# DIAMOND & CBN GRINDING WHEELS

Norton Diamond and CBN wheels are designed to grind and cut the hardest materials known to man, helping make "difficult-to-grind" applications routine operations. The hardness, abrasion resistance, compressive strength and thermal conductivity of Super Abrasive wheels make them a logical choice for many applications in order to achieve a high level of precision and quality.



## APPLICATIONS & MARKETS

Although both Diamond and CBN are Super Abrasives, the areas of usage for Diamond and CBN varies dramatically depending upon the material to be ground

### DIAMOND

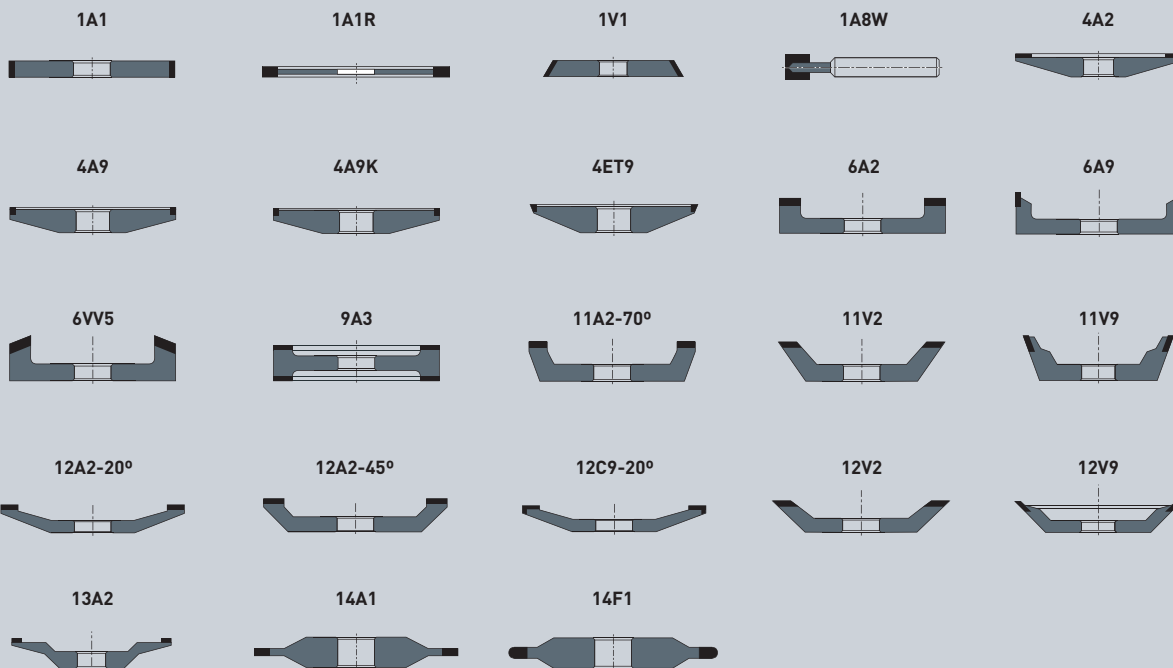
- Cemented carbide
- Glass
- Ceramics
- Fibreglass
- Plastics
- Stone
- Abrasives
- Electronic components & materials

### CBN

- High speed tool steels
- Die steels
- Hardened carbon steels
- Alloy steels
- Aerospace alloys
- Hard stainless steel
- Abrasion-resistant ferrous materials



**WHEEL SHAPES**



**DIAMOND WHEELS**

**FEATURES**

- High quality synthetic diamond
- Pre-engineered resin bond - B99
- Optimised design

**BENEFITS**

- High material removal rates; longer wheel life versus conventional silicon carbide wheels
- Free cutting; superior form holding; efficient wet or dry
- Ideal for dry tool room reconditioning applications
- Ideal for 1A1R cut-off applications & grinding glass or ceramic materials
- Fast stock removal, cool cutting; excellent for dry off-hand finishing of carbide tools, no wheel dressing required
- Most durable under high grinding forces; excellent for wet off-hand finishing of carbide tools



**CBN WHEELS**

**FEATURES**

- CBN abrasive material is 2nd in hardness to Diamond
- High quality durable CBN abrasive
- Pre-engineered resin bond - B99
- Optimised design
- High performance Aztec IV bond

**BENEFITS**

- Easily cuts difficult to grind steel parts, RC 50 or harder
- Highly wear resistant & thermally stable
- Free cutting, superior form holding
- Most efficient for dry tool resharpener especially where heavy stock removal is required
- Larger cutting depth



## PRODUCT SELECTION

APPLICATION	TYPE	APPLICATION VARIABLES	RECOMMENDED SPECIFICATION
<b>DIAMOND WHEELS STARTING RECOMMENDATIONS</b>			
Cutting-off	1A1R		ASD126R75B99
Cylindrical grinding OD	1A1, 14A1		ASD126R75B99
Cylindrical grinding ID	1A1, 1A8W		ASD126R75B99 ASD126R100B99
Tool sharpener grinder	6A2, 4A2, 11V2, 11A2, 12A2		Roughing: ASD151R75B99 ASD126R75B99  General purpose: Durable ASD107R100B99 Small contact ASD91R100B99 Free cutting ASD107R75B99 Larger contact ASD107R50B99 ASD91R50B99  Finishing: ASD64R75B99 ASD64R50B99 ASD54R50B99
Surface grinding	1A1	(Wet) Rough grinding of cemented carbides & hard (→55HRC) plasma & ceramic spray coatings  (Wet) Rough grinding of combination of cemented carbide & steel (→35%)	ASD126R75B99  AMD126R50B99
Tool & cutter grinding	11V9, 12V9, 1A1, 1V1	Manual (dry) CNC (wet)	ASD126R75B99 ASD64R100B99
Woodworking	12V2, 12A2-20°, 13A2 6A2, 12A2-45°, 11A2, 14A1, 14F1, 1A8W, 4A9, 4A9k, 6VV9	Face grinding Tooth top	ASD46R75B99 ASD107R75B99
<b>CBN WHEELS STARTING RECOMMENDATIONS</b>			
Cutting-off	1A1R		CTB151B99
Cylindrical grinding OD	1A1, 14A1		CB126TB99
Cylindrical grinding ID	1A1, 1A8W		CB126TB99
Tool sharpener grinder	6A2, 4A2, 11A2, 12A2		CB126TB99
Surface grinding	1A1		CB126TB99
Tool & cutter grinding	11V9, 12V9 1A1, 1V1	Manual (dry) CNC (wet)	AZTEC IV (dry) CB126TB99 CB107WB99
Woodworking	12V2, 12A2-20°, 13A2 6A2, 12A2-45°, 11A2, 14A1, 14F1, 1A8W	Face grinding Tooth top	CB126TB99 CB126TB99

**1A1**



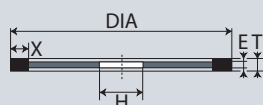
**DIAMOND**

DIA (mm)	T (mm)	H (mm)	X (mm)	PK QTY	BEST		BETTER	
15	12	6	2	1	ASD126R100B99	69014151486		
20	10	6	2	1	ASD126R100B99	69014151728		
25	10	6	2	1			ASD126R75B99	69014151498
	12	6	2	1	ASD126R100B99	69014151503		
30	10	6	3	1			ASD126R75B99	69014151508
	10	10	3	1			ASD126R75B99	69014151510
40	15	10	3	1			ASD126R75B99	69014151516
50	15	20	3	1			ASD126R75B99	69014151521
100	4	20	3	1			ASD91R75B99	69014151528
	6	32	3	1	ASD91R100B99	69014152303		
	10	20	5	1			ASD91R75B99	60157681620
	10	20	5	1	ASD64R100B99	60157681660		
	12	20	5	1	ASD64R100B99	60157681662		
	15	20	5	1			ASD91R75B99	60157681667
	15	20	5	1	ASD64R100B99	60157681669		
125	5	20	3	1			ASD126R75B99	69014151531
	10	20	5	1	ASD126R100B99	60157682091		
	10	20	10	1	ASD64R100B99	60157681670		
	12	20	10	1	ASD64R100B99	60157681672		
	16	20	10	1	ASD64R100B99	60157681674		
150	10	20	3	1			ASD126R50B99	60157636274
	10	32	3	1			ASD126R75B99	69014151540
	12	20	10	1	ASD64R100B99	60157681675		
175	15	32	1,5	1			ASD126R50B99	69014151545
200	10	32	3	1			ASD126R75B99	69014151550
	10	51	3	1			ASD126R75B99	69014152165
	15	32	3	1			ASD126R75B99	69014151558
	15	76,2	3	1			ASD126R75B99	69014151560
	10	76,2	3	1			ASD126R75B99	69014151565
250	15	76,2	3	1			ASD126R75B99	60157636276
	20	76,2	1,5	1			AMD126R50B99	69014151567
	10	127	3	1			ASD126R75B99	69014151570
300	15	127	3	1			ASD126R75B99	60157636277
	20	127	1,5	1			AMD126R50B99	69014151576

## CBN

DIA (mm)	T (mm)	H (mm)	X (mm)	PK QTY	BEST		BETTER	
12	10	6	2	1	CB126WB99	69014151482		
15	10	6	2	1	CB126WB99	69014151484		
	12	6	2	1	CB126WB99	69014151487		
20	10	6	2	1	CB126WB99	69014151492		
	15	6	2	1	CB126WB99	69014151495		
25	10	10	2	1	CB126WB99	69014151502		
	12	10	2	1	CB126WB99	69014151507		
30	15	10	3	1	CB126WB99	60157636271		
40	15	8	3	1	CB126WB99	69014151518		
	15	10	3	1	CB126WB99	69014151519		
50	15	20	3	1	CB126WB99	69014151524		
60	15	20	3	1	CB126WB99	60157636272		
100	10	20	3	1			CB126TB99	69014151529
	10	20	5	1	CB107WB99	60157681762		
	15	20	5	1	CB107WB99	60157681763		
125	10	20	10	1	CB107WB99	60157681764		
150	10	20	3	1			CB126TB99	69014151541
	12	20	10	1	CB107WB99	60157681765		
175	8	31,75	5	1	CB107WB99	60157682092		
200	10	32	3	1			CB126TB99	69014151552
	10	51	3	1			CB126TB99	60157636302
	15	32	3	1			CB126QB99	69014151556
	15	76,2	3	1			CB126TB99	69014151562
250	20	76,2	1,5	1			CB126QB99	69014151569
300	15	76,2	3	1			CB126TB99	69014151573
	15	127	3	1			CB126TB99	69014151574
	20	127	1,5	1			CB126QB99	69014151578

1A1R

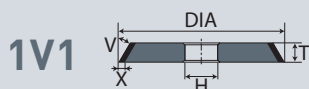


## DIAMOND

DIA (mm)	T (mm)	H (mm)	X (mm)	E (mm)	PK QTY	BETTER	
100	0,9	20	5	0,7	1	ASD126R75B99	60157681683
125	1	20	5	0,7	1	ASD126R75B99	60157681686
150	1	20	5	0,8	1	ASD126R75B99	60157681688
200	1,2	25,4	5	0,9	1	ASD126R75B99	60157681690
250	1,2	32	5	0,9	1	ASD126R75B99	60157681691
300	1,5	32	5	1,2	1	ASD126R75B99	60157681692

**CBN**

DIA (mm)	T (mm)	H (mm)	X (mm)	E (mm)	PK QTY	BETTER	
100	0,9	20	5	0,7	1	CB151TB99	60157681767
125	1	20	5	0,7	1	CB151TB99	60157682094
150	1	20	5	0,8	1	CB151TB99	60157682103
200	1,2	25,4	5	0,9	1	CB151TB99	60157681768
250	1,2	32	5	0,9	1	CB151TB99	60157681769
300	1,5	32	5	1,2	1	CB151TB99	60157681770



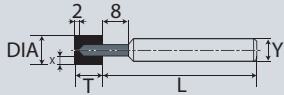
**DIAMOND**

DIA (mm)	T (mm)	H (mm)	X (mm)	V	PK QTY	BEST	
100	10	20	5	10°	1	ASD64R100B99	60157681694
	15	20	5	10°	1	ASD64R100B99	60157681695
	15	20	5	20°	1	ASD64R100B99	60157681696
	15	20	5	30°	1	ASD64R100B99	60157681697
	15	20	5	45°	1	ASD64R100B99	60157681698
125	6	20	5	20°	1	ASD64R100B99	60157681700
	10	20	5	10°	1	ASD64R100B99	60157681701
	10	20	5	20°	1	ASD64R100B99	60157681702
	10	20	5	30°	1	ASD64R100B99	60157681703
	15	20	5	20°	1	ASD64R100B99	60157681704
	15	20	5	45°	1	ASD64R100B99	60157681705
150	12	20	5	15°	1	ASD64R100B99	60157681706

**CBN**

DIA (mm)	T (mm)	H (mm)	X (mm)	V	PK QTY	BEST	
100	10	20	5	10°	1	CB107WB99	60157681771
	15	20	5	10°	1	CB107WB99	60157681772
	15	20	5	20°	1	CB107WB99	60157681773
	15	20	5	30°	1	CB107WB99	60157681774
	15	20	5	45°	1	CB107WB99	60157681775
125	12	20	5	10°	1	CB107WB99	60157681776
	12	20	5	45°	1	CB107WB99	60157681777
150	12	20	5	15°	1	CB107WB99	60157681778

1A8W

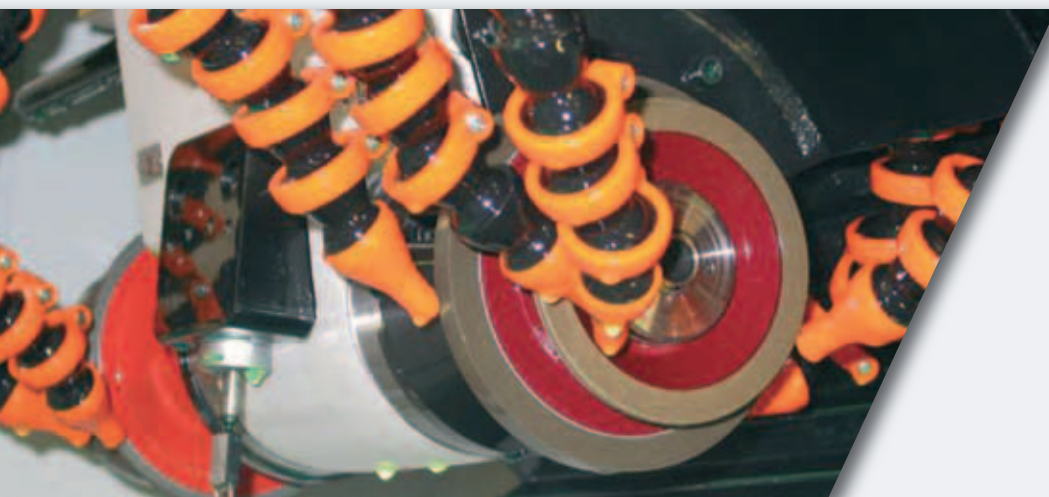


## DIAMOND

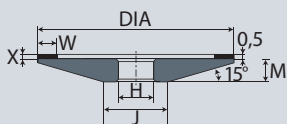
DIA (mm)	T (mm)	X (mm)	Y (mm)	L (mm)	PK QTY	BEST		BETTER	
3	6	0,65	3	40	1			ASD126R75B99	60157681708
4	6	1,15	3	40	1			ASD126R75B99	60157681709
5	6	1,5	3	40	1			ASD126R75B99	60157681710
6	3	1,5	6	40	1	ASD76R125B99	60157681711		
	6	1,5	6	40	1			ASD126R75B99	60157681713
	6	1,5	6	70	1	ASD64R125B99	60157681714		
8	10	2	6	70	1			ASD126R75B99	60157681717
	6	2	6	70	1	ASD64R125B99	60157681718		
10	10	2	6	70	1			ASD126R75B99	60157681720
	6	2	6	70	1	ASD64R125B99	60157681721		
12	10	3	6	70	1			ASD126R75B99	60157681722
	6	3	6	70	1	ASD64R125B99	60157681723		

## CBN

DIA (mm)	T (mm)	X (mm)	Y (mm)	L (mm)	PK QTY	BEST		BETTER	
3	6	0,65	3	40	1			CB126TB99	60157681779
4	6	1,15	3	40	1			CB126TB99	60157681780
5	6	1,5	3	40	1			CB126TB99	60157681781
6	6	1,5	6	40	1			CB126TB99	60157681782
	6	1,5	6	70	1	CB126WB99	60157681783		
8	10	2	6	70	1			CB126TB99	60157681784
	6	2	6	70	1	CB126WB99	60157681785		
10	10	2	6	70	1			CB126TB99	69014151061
	6	2	6	70	1	CB126WB99	60157681786		
12	10	3	6	70	1			CB126TB99	60157681787
	6	3	6	70	1	CB126WB99	60157681788		



**4A2**



**DIAMOND**

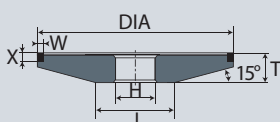
DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	J (mm)	PK QTY	BETTER	
100	7	20	5	2	51	1	ASD64R75B99	69014151677
	7	25*	5	2	51	1	ASD91R75B99	69014152017
125	8	20	5	2	69	1	ASD126R75B99	60157681726
	8	20	5	2	69	1	ASD64R75B99	69014151949
	8	32	5	2	69	1	ASD91R75B99	69014151954
	8	20	10	2	69	1	ASD107R75B99	60157682109
150	9	20	5	2	87	1	ASD126R75B99	60157636295
	9	20	5	2	87	1	ASD64R75B99	69014151955
	9	32	5	2	87	1	ASD91R75B99	69014151957
	9	32	5	2	87	1	ASD54R50B99	69014155611
175	10	20	5	4	104	1	ASD64R50B99	60157681727
	10	32	5	4	104	1	ASD126R75B99	69014151709

**CBN**

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	J (mm)	PK QTY	BETTER	
100	7	20	5	2	51	1	CB126TB99	69014151685
125	8	32	5	2	69	1	CB151TB99	69014151695
150	9	20	5	2	87	1	CB126TB99	60157636297
	9	20	5	4	87	1	CB107TB99	60157682111
175	10	20	5	4	104	1	CB126TB99	60157636298
200	11	20	6	4	121	1	CB107TB99	60157682113

\*4A2K (with keyway)

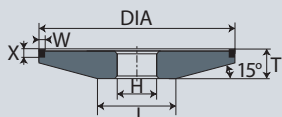
**4A9**



**DIAMOND**

DIA (mm)	T (mm)	H (mm)	W (mm)	X (mm)	J (mm)	PK QTY	BETTER	
80	10	32	4,7	4	38	1	ASD107R75B99	60157681731
100	10	32	4,7	4	55	1	ASD107R75B99	69014151711

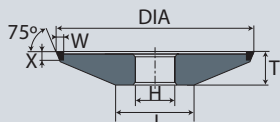
4A9K



## DIAMOND

DIA (mm)	T (mm)	H (mm)	W (mm)	X (mm)	J (mm)	PK QTY	BETTER	
75	14	20	4	4	35	1	ASD126R75B99	601576 <b>82214</b>
100	14	20	4	4	35	1	ASD126R75B99	690141 <b>51981</b>

4ET9

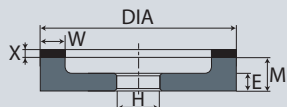


## DIAMOND

DIA (mm)	T (mm)	H (mm)	W (mm)	X (mm)	J (mm)	PK QTY	BEST		BETTER	
100	8	25*	3	1,8	54	1			ASD54R75B99	690141 <b>51958</b>
	8	25*	3	3,3	54	1			ASD76R50B99	601576 <b>81732</b>
125	11,5	32	2,5	1,2	63	1	ASD54R75XLB4847	690141 <b>51979</b>		
	12	32	3	1,8	63	1	ASD91R100B99	662601 <b>65128</b>		
	12	32	3	1,8	63	1	ASD54R75XLB4847	690141 <b>51369</b>		
	14	32	3	3,8	63	1	ASD54R75XLB4847	690141 <b>51980</b>		

\*4ET9K (with keyway)

6A2



## DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	BEST		BETTER	
100	20	20	6	4	10	1			ASD151R75B99	601576 <b>81733</b>
	20	25	6	4	10	1	ASD91R100B99	601576 <b>82114</b>		
	20	20	8	2	10	1	ASD107R100B99	601576 <b>81734</b>		
	20	25	8	2	10	1			ASD107R75B99	690141 <b>51608</b>
	20	15	12	2	10	1			ASD107R50B99	601576 <b>36304</b>
	20	20	12	2	10	1			ASD107R50B99	601576 <b>36282</b>
	20	20	12	2	10	1			ASD54R50B99	690141 <b>51610</b>
125	20	20	5	2	10	1			ASD64R50B99	601576 <b>82115</b>
	40	20	6	5	10	1			ASD64R75B99	601576 <b>82117</b>
	20	20	10	2	10	1			ASD107R50B99	690141 <b>51615</b>
	20	70	10	2	10	1			ASD107R50B99	690141 <b>52087</b>
150	50	20	6	4	10	1			ASD126R75B99	690141 <b>51618</b>
	50	50	6	4	10	1	ASD126R100B99	601576 <b>81735</b>		
	20	20	10	2	10	1			ASD91R50B99	690141 <b>51624</b>
	20	32	15	2	10	1			ASD107R50B99	690141 <b>51629</b>
	20	20	20	2	10	1			ASD126R75B99	690141 <b>51631</b>
200	50	105	15	6	13	1	ASD151R100B99	601576 <b>82118</b>		

**CBN**

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	BEST		BETTER	
125	40	20	6	4	10	1			CB151TB99	601576 <b>81789</b>
150	50	20	6	4	10	1			CB151TB99	601576 <b>81791</b>
	50	32	6	4	10	1			CB126TB99	690141 <b>51623</b>
200	50	105	15	6	13	1	CB107WB99	601576 <b>82119</b>		

**6A9**



**DIAMOND**

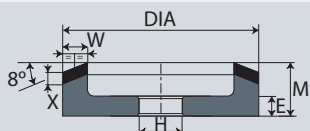
DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	K (mm)	E (mm)	PK QTY	BEST		
100	20	25*	3	6	80	7	1	ASD54R100B99		690141 <b>53087</b>
	20	20	3	10	80	7	1	ASD64R100B99		601576 <b>82122</b>
125	18	20	3	6	112	11	1	ASD54R100B99		690141 <b>51637</b>
	18	32	3	6	112	11	1	ASD54R100B99		690141 <b>51638</b>
	30	20	3	10	105	10	1	ASD126R100B99		601576 <b>81803</b>

**CBN**

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	K (mm)	E (mm)	PK QTY	BEST		
100	20	20	3	10	80	7	1	CB151WB99		601576 <b>82123</b>

\*6A9K (with keyway)

**6VV5**



**DIAMOND**

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	BEST		BETTER	
100	20	25*	5	8	10	1			ASD126R100/46R75XLB4847	690141 <b>51090</b>
125	18	25*	5	6	10	1			ASD126R100/46R75B99	601576 <b>82125</b>
	18	32	5	6	10	1	ASD126R125/46R100B99	601576 <b>81736</b>		
	18	32	5	6	10	1			ASD91R100/20BR75B99	601576 <b>81737</b>
125	22	32	5	10	10	1			ASD126R100/46R75B99	601576 <b>81738</b>
	22	32	5	10	10	1	ASD126R125/46R100B99	601576 <b>81739</b>		
	22	32	5	10	10	1			ASD91R100/20BR75B99	601576 <b>81740</b>

\*6VV5K (with keyway)

# DIAMOND & CBN GRINDING WHEELS

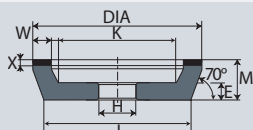
9A3



## DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	BETTER	
175	30	20	5	2	14	1	ASD126R50B99	69014151640
	30	20	5	2	14	1	ASD64R50B99	69014151639

11A2-70°



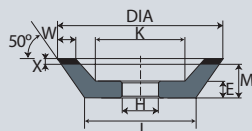
## DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST	BETTER
100	20	20	5	4	75	10	88	1		ASD151R75B99 60157682163
	20	25	5	4	75	10	88	1	ASD126R100B99 60157682164	

## CBN

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST	BETTER
100	20	20	5	4	75	10	88	1		CB126TB99 60157682165
150	23	32	6	4	122	10	135	1		CB151TB99 60157682166

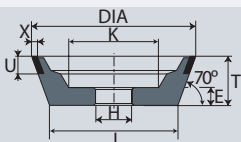
11V2



## DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BETTER	
100	25	20	5	3	60	12	58	1	ASD126R75B99	60157636285
	25	20	5	3	60	12	58	1	ASD91R75B99	60157636284

**11V9**



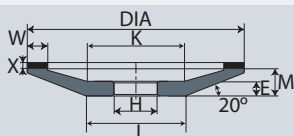
**DIAMOND**

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST		BETTER	
75	30	16	1,5	10	40	10	53	1			ASD54R75B99	69014152028
	30	20	2	10	40	10	53	1			ASD126R75B99	69014151377
	30	20	2	10	40	10	53	1			ASD107R75B99	60157682168
	30	20	2	10	40	10	53	1	ASD64R100B99	60157681746		
100	35	20	1,5	10	55	10	75	1			ASD76R75B99	69014151656
	35	20	2	10	55	10	75	1			ASD126R75B99	69014151386
	35	20	2	10	55	10	75	1			ASD76R75B99	69014151383
	35	20	2	10	55	10	75	1	ASD64R100B99	60157681747		
	35	20	3	10	55	10	75	1			ASD126R75B99	60157681748
	35	20	3	10	55	10	75	1	ASD64R100B99	60157681749		
	35	32	3	10	55	10	75	1			ASD126R75B99	69014151667
125	40	20	3	10	75	10	96	1			ASD126R75B99	69014151672
	40	20	3	10	75	10	96	1	ASD64R100B99	60157681750		
	40	32	3	10	75	10	96	1			ASD126R75B99	69014151674

**CBN**

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST		BETTER	
75	30	20	1,5	10	40	10	53	1	AZTECIV181TBX104	69014152323		
	30	20	2	10	40	10	53	1			CB126TB99	69014151379
	30	20	2	10	40	10	53	1			CB91TB99	60157681792
100	35	20	1,5	10	55	10	75	1	AZTECIV181TBX104	69014152118		
	35	20	1,5	10	55	10	75	1	AZTECIV126TBX104	69014152115		
	35	32	1,5	10	55	10	75	1	AZTECIV181TBX104	69014152120		
	35	20	2	10	55	10	75	1			CB126TB99	69014151944
	35	20	2	10	55	10	75	1			CB91TB99	60157681793
	35	32	2	10	55	10	75	1			CB126TB99	69014151946
	35	20	3	10	55	10	75	1	CB107WB99	60157681794		
125	40	20	1,5	10	75	10	96	1	AZTECIV126TBX104	69014152326		
	40	20	3	10	75	10	96	1			CB107TB99	60157681795

12A2-20°



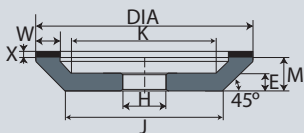
## DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST		BETTER	
125	14	20	5	2	54	8	54	1			ASD126R75B99	69014151721
	14	20	5	2	54	8	54	1			ASD64R75B99	60157687009
	14	20	6	2	54	8	54	1			ASD126R50B99	60157682169
	14	20	6	2	54	8	54	1			ASD91R50B99	60157682170
	14	20	6	4	54	8	54	1	ASD126R100B99	60157682171		
	14	32	6	4	54	8	54	1			ASD91R75B99	60157682172
150	16	20	5	2	68	9	68	1			ASD126R75B99	69014151961
	16	20	5	2	68	9	68	1			ASD64R50B99	69014151397
	16	32	5	2	68	9	68	1			ASD126R75B99	69014151963
	16	32	5	3	68	9	68	1	ASD91R100B99	60157682176		
	16	32	5	3	68	9	68	1	ASD64R100B99	60157682177		
	16	32	6	4	68	9	68	1			ASD126R75B99	60157682178
	16	32	6	4	68	9	68	1			ASD91R75B99	60157682179
175	18	20	5	2	82	10	82	1			ASD126R75B99	69014151422
	18	20	5	2	82	10	82	1			ASD64R50B99	69014151415
	18	32	5	2	82	10	82	1			ASD126R75B99	69014151424

## CBN

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST		BETTER	
125	14	32	6	4	54	8	54	1			CB107TB99	60157682173
	14	20	10	4	54	8	54	1	CB126WB99	60157682174		
150	16	32	5	3	68	9	68	1	CB126WB99	60157682181		
	16	20	5	4	68	9	68	1			CB126QB99	69014151412
	16	32	6	4	68	9	68	1			CB126TB99	60157682182
	16	32	10	4	68	9	68	1	CB151WB99	60157682183		
175	18	20	5	4	82	10	82	1			CB126TB99	69014151427

### 12A2-45°



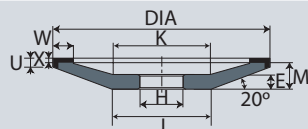
#### DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BETTER	
100	23	20	5	2	54	10	62	1	ASD107R50B99	601576 <b>36265</b>
	23	20	6	3	54	10	62	1	ASD126R75B99	690141 <b>51437</b>
	23	20	6	3	54	10	62	1	ASD76R75B99	690141 <b>51434</b>
125	23	32	6	3	79	10	81	1	ASD126R75B99	601576 <b>36267</b>

#### CBN

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BETTER	
100	23	20	5	2	54	10	62	1	CB126QB99	690141 <b>51432</b>
125	23	20	6	2	79	10	81	1	CB126TB99	690141 <b>51441</b>

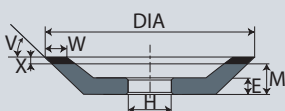
### 12C9-20°



#### CBN

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	U (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST	
150	16	20	5	2	3	68	9	68	1	AZTECIV126QBX104	690141 <b>54415</b>
	16	32	5	2	3	68	9	68	1	AZTECIV126QBX104	690141 <b>54417</b>
175	18	20	5	4	5	82	10	82	1	AZTECIV126QBX104	690141 <b>54420</b>

### 12V2



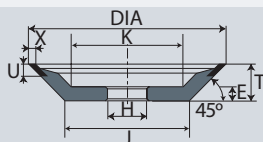
#### DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	V	E (mm)	PK QTY	BEST		BETTER	
125	11	20	4	2	30°	9	1	ASD76R125B99	601576 <b>82187</b>		
	11	32	4	2	30°	9	1	ASD76R125B99	601576 <b>82188</b>		
	11	32	4	2	30°	9	1	ASD46R125B99	601576 <b>82189</b>		
150	13	25*	4	2	20°	11	1	ASD76R125B99	601576 <b>81805</b>		
	13	32	4	2	15°	11	1	ASD76R125B99	601576 <b>81807</b>		
	13	32	4	2	15°	11	1			ASD64R75B99	601576 <b>82185</b>
	13	32	4	2	15°	11	1	ASD46R125B99	601576 <b>81808</b>		

\*12V2K (with keyway)

# DIAMOND & CBN GRINDING WHEELS

12V9



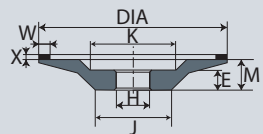
## DIAMOND

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST		BETTER	
75	20	20	2	6	35	10	35	1			ASD126R75B99	69014151966
	20	20	3	6	35	10	35	1			ASD76R75B99	69014151462
	20	20	2	10	35	10	35	1			ASD64R75B99	60157681752
100	20	20	2	6	60	10	60	1			ASD126R75B99	69014151464
	20	20	2	6	60	10	60	1			ASD64R75B99	60157681753
	20	20	2	10	60	10	60	1	ASD64R100B99	60157681754		
	20	20	3	10	60	10	60	1	ASD64R100B99	60157681755		
	20	20	3	10	60	10	60	1			ASD46R75B99	60157681756
	20	20	3	10	60	10	60	1	ASD46R100B99	60157681757		
125	25	20	2	6	75	10	75	1			ASD126R75B99	60157681758
	25	20	2	6	75	10	75	1			ASD64R75B99	60157681759
	25	20	3	10	75	10	75	1	ASD64R100B99	60157681760		

## CBN

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BEST		BETTER	
75	20	20	2	6	35	10	35	1			CB107TB99	60157681797
100	20	20	2	6	60	10	60	1			CB126TB99	69014151973
	20	20	3	10	60	10	60	1			CB126TB99	60157681798
	20	20	3	10	60	10	60	1	CB107WB99	60157681799		
125	25	20	2	6	75	10	75	1			CB126TB99	69014151975
	25	20	2	6	75	10	75	1			CB107TB99	60157681800
	25	20	3	10	75	10	75	1	CB107WB99	60157681801		

13A2



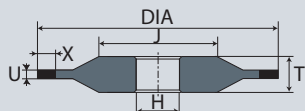
## DIAMOND

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BETTER		
125	18	32	5	1,5	50	9	70	1	ASD107R75B99		60157682191
	18	20	5	4	50	9	70	1	ASD126R75B99		69014151473
	18	20	5	4	50	9	70	1	ASD64R75B99		60157687068
	18	20	5	4	50	9	70	1	ASD46R75B99		60157681810
150	20	32	5	1,5	60	9	82	1	ASD107R75B99		60157682192
	20	20	5	4	60	9	82	1	ASD151R75B99		60157681815
	20	20	5	4	60	9	82	1	ASD64R75B99		60157681820
175	22	20	5	4	70	10	100	1	ASD126R75B99		60157681827

**CBN**

DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BETTER	
125	18	20	5	4	50	9	70	1	CB151TB99	60157681812
	18	20	5	4	50	9	70	1	CB107QB99	60157681814
150	20	20	5	4	60	9	82	1	CB151TB99	60157681825
	20	20	5	4	60	9	82	1	CB126QB99	69014151479
	20	20	5	4	60	9	82	1	CB107QB99	60157681826

**14A1**



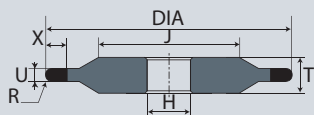
**DIAMOND**

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	J (mm)	PK QTY	BEST	
200	10	32	7	3	160	1	ASD126R100B99	60157682194
	10	60	5	4	160	1	ASD151R100B99	60157682195
	10	32	6	4	160	1	ASD46R100B99	60157681830
	10	60	6	4	160	1	ASD46R100B99	60157681831
	10	32	7	5	160	1	ASD126R100B99	60157682196
	10	60	7	5	160	1	ASD126R100B99	60157682197

**CBN**

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	J (mm)	PK QTY	BEST	
200	10	60	5	2	160	1	CB181WB99	60157682198
	10	32	6	4	160	1	CB151WB99	60157681832
	10	32	6	4	160	1	CB91WB99	60157681833
	10	32	6	4	160	1	CB64WB99	60157681835
	10	60	6	4	160	1	CB151WB99	60157681836
	10	60	6	4	160	1	CB126WB99	60157681837
	10	60	6	4	160	1	CB64WB99	60157681838

14F1



## DIAMOND

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	R (mm)	J (mm)	PK QTY	BEST		BETTER	
100	6	20	6	4	2	70	1	ASD64R100B99	60157681846		
125	10	20	10	8	4	100	1			ASD65R75B99	60157681848
150	10	20	5	2	1	120	1	ASD64R100B99	60157681850		
	10	20	5	4	2	120	1	ASD64R100B99	60157681851		
200	10	50	5	2	1	160	1	ASD151R100B99	60157682201		
	10	32	6	2	1	160	1	ASD126R100B99	60157681853		
	10	60	7	2	1	160	1	ASD64R100B99	60157681855		
	10	60	7	2	1	160	1	ASD126R100B99	60157682202		
	10	20	5	2,4	1,2	160	1	ASD64R100B99	60157682204		
	10	60	6	3	1,5	160	1	ASD126R100B99	60157681856		
	10	32	7	3	1,5	160	1	ASD126R100B99	60157683136		
	10	20	5	4	2	160	1	ASD64R100B99	60157682205		
	10	20	6	4	2	160	1	ASD151R100B99	60157681857		
	10	32	6	4	2	160	1	ASD151R100B99	60157681858		
	10	60	6	4	2	160	1	ASD151R100B99	60157681859		
	10	60	7	4	2	160	1	ASD126R100B99	60157682208		
	10	60	5	5	2,5	160	1	ASD126R100B99	60157682209		
	10	32	6	5	2,5	160	1	ASD151R100B99	60157681862		

## CBN

DIA (mm)	T (mm)	H (mm)	X (mm)	U (mm)	R (mm)	J (mm)	PK QTY	BEST			
100	6	20	5	4	2	70	1	CB107WB99		60157681847	
125	10	20	5	4	2	100	1	CB107WB99		60157681849	
150	10	20	5	4	2	120	1	CB107WB99		60157681852	
200	10	20	5	2,4	1,2	160	1	CB91WB99		60157682210	
	10	32	7	3	1,5	160	1	CB126WB99		60157682211	
	10	60	5	4	2	160	1	CB151WB99		60157682212	
	10	32	6	4	2	160	1	CB151WB99		60157681863	



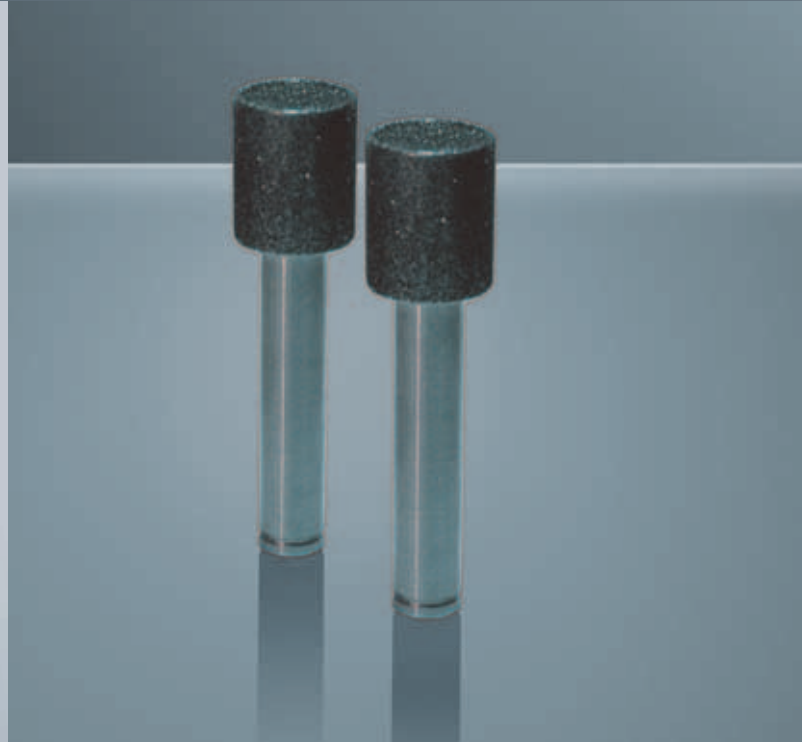
# ELECTROPLATED PINS

Electroplated pins with high quality Diamond and CBN grits

## APPLICATIONS & MARKETS

Internal grinding of:

- Carbides
- Short chipping materials
- HSS/high-alloy hardened steel



## DIAMOND PINS DPS

### FEATURES

- Electroplated pins with high quality diamond in 2 grit sizes

### BENEFITS

- High material removal
- For use dry or wet
- Ideal for carbides & short chipping material



## CBN PINS XBS

### FEATURES

- Electroplated pins with high quality CBN in 2 grit sizes

### BENEFITS

- High material removal rate
- For use dry or with straight oil
- Ideal for HSS & high-alloy hardened steels



BEST

**E1A8W**
**DIAMOND**

DIA (mm)	T (mm)	Y (mm)	L (mm)	L <sub>2</sub> (mm)	PK QTY	BEST	
1,5	5	3	40	7	4	DPS 76M	69014151200
	5	3	40	7	4	DPS 181M	69014151199
2	5	3	40	12	4	DPS 76M	69014151168
	5	3	40	12	4	DPS 181M	60157637973
2,5	5	3	40	12	4	DPS 76M	69014151201
3	5	3	50	15	4	DPS 76M	69014151170
	5	3	50	15	4	DPS 181M	69014151169
3,5	5	3	50		4	DPS 76M	69014151205
4	5	3	50		4	DPS 76M	69014151173
	5	3	50		4	DPS 181M	69014151172
5	5	3	50		4	DPS 76M	69014151207
	5	3	50		4	DPS 181M	69014151206
6	6	6	64	14	3	DPS 76M	69014151178
	6	6	64	14	3	DPS 181M	69014151177
8	8	6	62		2	DPS 76M	69014151192
	8	6	62		2	DPS 181M	69014151191
10	10	6	80		2	DPS 76M	69014151195
	10	6	80		2	DPS 181M	69014151194
12	10	6	80		2	DPS 76M	60157636808

**CBN**

DIA (mm)	T (mm)	Y (mm)	L (mm)	L <sub>2</sub> (mm)	PK QTY	BEST	
0,7	3	3	32	4	4	XBS 76M	69014151184
1	4	3	31	5	4	XBS 76M	69014151183
	4	3	31	5	4	XBS 181M	69014151188
1,2	4	3	31	8	4	XBS 181M	69014151190
1,5	5	3	40	7	4	XBS 76M	69014151203
	5	3	40	7	4	XBS 181M	69014151176
2	5	3	40	12	4	XBS 76M	69014151202
	5	3	40	12	4	XBS 181M	69014151180
2,5	5	3	40	12	4	XBS 76M	69014151197
	5	3	40	12	4	XBS 181M	69014151198
3	5	3	50	15	4	XBS 76M	69014151171
	5	3	50	15	4	XBS 181M	60157636804
3,5	5	3	50		4	XBS 76M	69014151185
	5	3	50		4	XBS 181M	69014151186
4	5	3	50		4	XBS 76M	69014151175
	5	3	50		4	XBS 181M	69014151174
5	5	3	50		4	XBS 76M	69014151179
	5	3	50		4	XBS 181M	60157636809

## CBN

DIA (mm)	T (mm)	Y (mm)	L (mm)	L <sub>2</sub> (mm)	PK QTY	BEST	
6	6	6	64	14	3	XBS 76M	601576 <b>36806</b>
	6	6	64	14	3	XBS 181M	690141 <b>51187</b>
7	6	6	64		3	XBS 76M	690141 <b>51189</b>
	6	6	64		3	XBS 181M	601576 <b>36805</b>
8	8	6	62		2	XBS 76M	690141 <b>51193</b>
	8	6	62		2	XBS 181M	601576 <b>36807</b>
9	8	6	62		2	XBS 181M	690141 <b>51181</b>
10	10	6	80		2	XBS 181M	690141 <b>51196</b>
12	10	6	80		2	XBS 76M	690141 <b>51182</b>
	10	6	80		2	XBS 181M	601576 <b>37837</b>



Norton stationary diamond dressing tools have a worldwide reputation for quality and technology.

## APPLICATIONS & MARKETS

- For profiling & straight dressing of all conventional grinding wheels



## PRODUCT SELECTION

USAGE KEY	GENERAL CHOICE					
	STRAIGHT GRINDING WHEELS WITH NO PROFILE	PROFILED GRINDING WHEELS	GRIT	AUTOMATIC DRESSING PROCESS	ECONOMICAL DRESSING	HIGH REMOVAL RATE
■ Highly recommended ▨ Recommended						
DRESSING TOOL						
Single-point	▨		All			
Multi-point	■		36-180		■	■
Blade tool dresser	■	▨	36-180	■	■	▨
Profile dresser		■	80-180			

## SPEC CHECK

- A new dressing tool should be put through at least 5 dressing cycles in order to fit the diameter of the grinding wheel
- The lifetime of the dressing tool is extended by ensuring that adequate coolant pressure & volume are directed at the tool

**BEST**

## BLADE TOOL DRESSER HPB-D 3565 & 3585

### FEATURES

- Synthetic multi-crystalline diamond

### BENEFITS

- Gives the highest repeatability & consistency of dressing for the highest demands for profiling & straight dressing



**BETTER**

## BLADE TOOL DRESSER HPB-D & -C 30, 45, 60

### FEATURES

- Natural diamond

### BENEFITS

- For an economical dressing solution of all Alox & SiC wheels. Needles are recommended for profile dressing



## SELECTION OF BLADE TOOL DRESSERS

Dressing of profiles with blade tools	Dressing tools use "needle" form natural or synthetic diamonds Needle diamonds are especially suited to dressing profiles using infeed & angular feed
Natural diamonds	An effective diamond layer with a length up to 15mm gives a very economical dressing solution. Using precise diamond setting patterns, with overlapped rows of stones ensures that consistent dressing results are achieved
Synthetic diamonds	The constant cross section given by synthetic diamonds, guarantee a constant dressing behaviour through the complete life of the dressing tool

### SELECTION OF GRIT SIZE

Grit size of grinding wheel	Synthetic diamond size	Natural diamond size
46	0,8x0,8	D1181
60	0,8x0,8	D1001
80-120	0,6x0,6	D711

### SELECTION OF TOOL SIZE

	Diameter x Thickness (mm)	No. of synthetic needles	Dimensions
	<35000	2	10,5x28
	35000-60000	3	20,5x28
	60000-100000	4	20,5x28

## BLADE TOOL DRESSERS

W (mm)	L (mm)	DL (mm)	GRIT	PK QTY	BEST		BETTER	
10,5	28	12	D711	1			HPB-D 30	60157682759
	28	12	D1001	1			HPB-D 45	60157682782
	28	12	D1181	1			HPB-D 60	60157682786
	28	12	NEEDLE	1			HPB-D	60157682790
20,5	28	10	D711	1			HPB-C 30	60157682801
	28	10	D1001	1			HPB-C 45	60157682806
	28	10	D1181	1			HPB-C 60	60157682809
	28	10	NEEDLE	1			HPB-C	60157682814
10,5	28	4	0,6x0,6	1	HPB-D 3565 / 2	60157682820		
	28	4	0,6x0,6	1	HPB-D 3565 / 3	60157682856		
	28	4	0,6x0,6	1	HPB-D 3565 / 4	60157682895		
	28	4	0,8x0,8	1	HPB-D 3585 / 2	60157682899		
	28	4	0,8x0,8	1	HPB-D 3585 / 3	60157682902		
	28	4	0,8x0,8	1	HPB-D 3585 / 4	60157682904		

## SCREWED SHANKS FOR BLADE TOOL DRESSERS

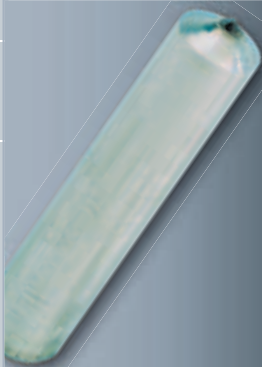
DIA (mm)	L (mm)	SHANK CODE	PK QTY	BEST	
12,065	40	MT1	1	HPB-H3	60157682832
9,045	25,5	MT0	1	HPB-H4	60157682907
11,11	50	Z11,11	1	HPB-H2	60157682910
10,00	50	Z10	1	HPB-HX	60157682911

Dimensions Key: DIA = Diameter, W = Width, L = Length, DL = Diamond Length

BEST

## SINGLE-POINT DRESSER BC SG


FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Highest quality diamonds</li> </ul>	<ul style="list-style-type: none"> <li>■ Especially developed for dressing ceramic abrasive (SG/TG) wheels which require faster traverse speed dressing</li> </ul>
<ul style="list-style-type: none"> <li>■ High performance tools</li> </ul>	<ul style="list-style-type: none"> <li>■ Enables dressing costs to be reduced, especially at production grinding stations</li> </ul>



BETTER

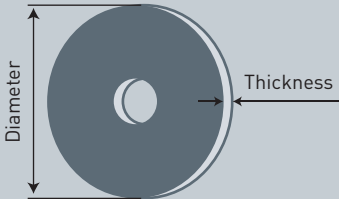
## SINGLE-POINT DRESSER BC

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Feature standard diamonds</li> </ul>	<ul style="list-style-type: none"> <li>■ Ideal for applications where it's difficult to measure the performance of the dressing tool</li> </ul>
<ul style="list-style-type: none"> <li>■ Economy product</li> </ul>	<ul style="list-style-type: none"> <li>■ Suitable for dressing conventional abrasive wheels</li> </ul>



## CHOICE OF SINGLE-POINT DRESSERS

Which tool to choose depends mainly on the dimensions of the wheel to be dressed.  
In order to calculate this, it is best to use the following method:

MULTIPLY THE DIAMETER OF THE WHEEL BY ITS THICKNESS		
	Diameter x Thickness (mm)	Carat
	< 6000	0,33 Carat
	6000 – 18000	0,50 Carat
	> 18000	1,0 Carat

For best results, always use a coolant when dressing

## SINGLE-POINT DRESSERS

SHANK (mm)	CARAT	PK QTY	BEST	BETTER
			BC SG	BC
Z8	0,33	1		66260161753
	0,50	1	66260161757	66260161752
	1,00	1	66260161755	66260161750
Z10	0,33	1	66260161769	66260161764
	0,50	1	66260161768	66260161763
	1,00	1	66260161766	66260161761
Z11,11	0,33	1	66260156906	66260195003
	0,50	1	66260156907	66260195005
	1,00	1	66260157010	66260195009
Z12	0,33	1		66260161775
	0,50	1	66260161779	66260161774
	1,00	1	66260161777	

## PROFILE DRESSER

## FEATURES

- Extremely high performance tools

## BENEFITS

- Used to meet extremely high profile accuracy requirements



BEST

## PROFILE DRESSER

SHANK (mm)	RADIUS (mm)	ANGLE	BEST	
Z9,52	0,13	40°	DC 40/130	60157682850
	0,25	40°	DC 40/250	60157682889
	0,50	40°	DC 40/500	60157682901
	0,13	60°	DC 60/130	60157682903
	0,25	60°	DC 60/250	60157682905
	0,50	60°	DC 60/500	60157682909

**BEST**

## MULTI-POINT DRESSER

### FEATURES

- Economical & robust tool

### BENEFITS

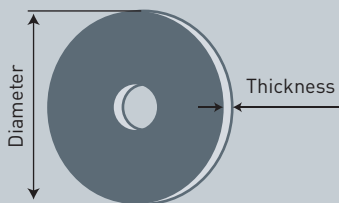
- Ideal for straight dressing at high speed with low technical demands



## CHOICE OF MULTI-POINT DRESSERS

Which tool to choose depends mainly on the dimensions of the wheel to be dressed. In order to calculate this, it is best to use the following method:

MULTIPLY THE DIAMETER OF THE WHEEL BY ITS THICKNESS



Diameter x Thickness (mm)	Carat
<30000	1,3 Carat
30000 - 60000	2,5 Carat
>60000	5,0 Carat

For best results, always use a coolant when dressing

### CHOICE OF A DIAMOND GRIT

Wheel abrasive	Diamond
80-120	D301
60-80	D711
46-60	D1001
36-46	D2240



## MULTI-POINT DRESSERS

SHANK (mm)	GRIT	PK QTY	BEST		
			D11x11 (5 CARAT)	D8x11 (2,5 CARAT)	D6x8 (1,3 CARAT)
Z8	D2240	1	60157682849	60157682915	
	D1001	1	60157682896	60157682920	
	D711	1	60157682906	60157682970	60157682986
	D301	1			60157683153
Z10	D2240	1	60157682892	60157682916	
	D1001	1	60157682897	60157682922	
	D711	1	60157682908	60157682968	60157682990
	D301	1			60157683154
Z11,11	D2240	1	60157682893	60157682917	
	D1001	1	60157682898	60157682923	
	D711	1	60157682912	60157682977	60157682992
	D301	1			60157683155
MT1 12,065	D2240	1	60157682894	60157682918	
	D1001	1	60157682900	60157682925	
	D711	1	60157682914	60157682981	60157682996
	D301	1			60157683156

## HAND DRESSER

## FEATURES

- High diamond concentration
- Grit 18/25 SPC

## BENEFITS

- High wear resistance & long lifetime
- Suitable for face & side dressing



BEST

## HAND DRESSER

PK QTY	BEST	
1	HD-150	60157682852

**BEST**

## BRAKE CONTROLLED TRUING DEVICE

### FEATURES

- For fast effective truing of Diamond & CBN wheels with minimum loss of abrasive

### BENEFITS

- Ideal for truing the following Diamond & CBN wheel types: straight wheels with diamond in the periphery, tool & cutter grinding wheels, wheels used on surface & cylindrical grinding machines, cut-off wheels, internal grinding wheels & cup wheels with diamond in the rim as used on vertical spindle surface grinders



## BRAKE CONTROLLED TRUING DEVICE

PK QTY	BEST	
1	BCTD	66260274459

## REPLACEMENT WHEELS

DIA (mm)	T (mm)	B (mm)	PK QTY	BEST	
80	25	13	10	Wheel 37C60-NV	69936668764

## SPEC CHECK

- 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
- Use appropriate traverse rates

**Dimensions Key:** DIA = Diameter, T= Thickness, B = Bore

# DIAMOND LAPPING COMPOUNDS

Norton lapping compounds are supplied in a standard concentration in 5g dispenser syringes. Perfectly sized synthetic diamond powder is mixed with a paste. When used, this compound should be diluted with water or alcohol.

## APPLICATIONS & MARKETS

- Used for lapping an extremely wide range of parts by hand
- Superfinishing of electronic components, semi-conductors, magnetic heads, rigid discs & optical discs
- Finishing for routine operations
- Preparatory lapping
- Fast removal of material, roughing



BEST

## COMPOUNDS

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Optimised diamond grit size distribution</li> </ul>	<ul style="list-style-type: none"> <li>■ Easy &amp; safe application</li> </ul>

## DIAMOND COMPOUND PASTE

GRADE (MICRONS)	COLOUR	CONTENTS	PK QTY	BEST
1/4	GREY	5g	1	69014154990
1/2	LIGHT GREY	5g	1	69014154991
1	IVORY	5g	1	69014154992
3	YELLOW	5g	1	69014154993
6	ORANGE	5g	1	69014154994
9	GREEN	5g	1	69014154995
12	LIGHT BLUE	5g	1	69014154996
15	BLUE	5g	1	69014154997
20	BROWN	5g	1	69014154998
30	RED	5g	1	69014154999
45	CHESTNUT	5g	1	69014155000
60	VIOLET	5g	1	69014155001



Norton offers a range of diamond files in various shapes.

#### APPLICATIONS & MARKETS

- Deburring
- Tool profiling
- Touching up hardened steels & metal carbides
- Glass
- Ceramics
- Hard plastics



BEST

## FILES

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Several shapes available</li> </ul>	<ul style="list-style-type: none"> <li>■ Free-cutting &amp; high wear resistant, requiring only low contact pressure</li> </ul>

FILES					BEST
SHAPE	T (mm)	H (mm)	L (mm)	PK QTY	
	1,4	4,8	160	6	601576 <b>36812</b>
	1,9	5,3	160	6	601576 <b>36813</b>
	3,6	3,6	160	6	601576 <b>36814</b>
	2,5	2,5	160	6	601576 <b>36815</b>
	∅	3,0	160	6	601576 <b>36816</b>
	1,4	4,8	160	6	601576 <b>36817</b>
Set - all above				6	601576 <b>36811</b>

**Dimensions Key:** T = Thickness, H = Height, L = Length



**NORTON**



**376 INTRODUCTION**

**378 ANGLE GRINDERS**

**386 PETROL HAND HELD & FLOOR SAWS**

**390 MASONRY SAWS**

**396 TILE SAWS**

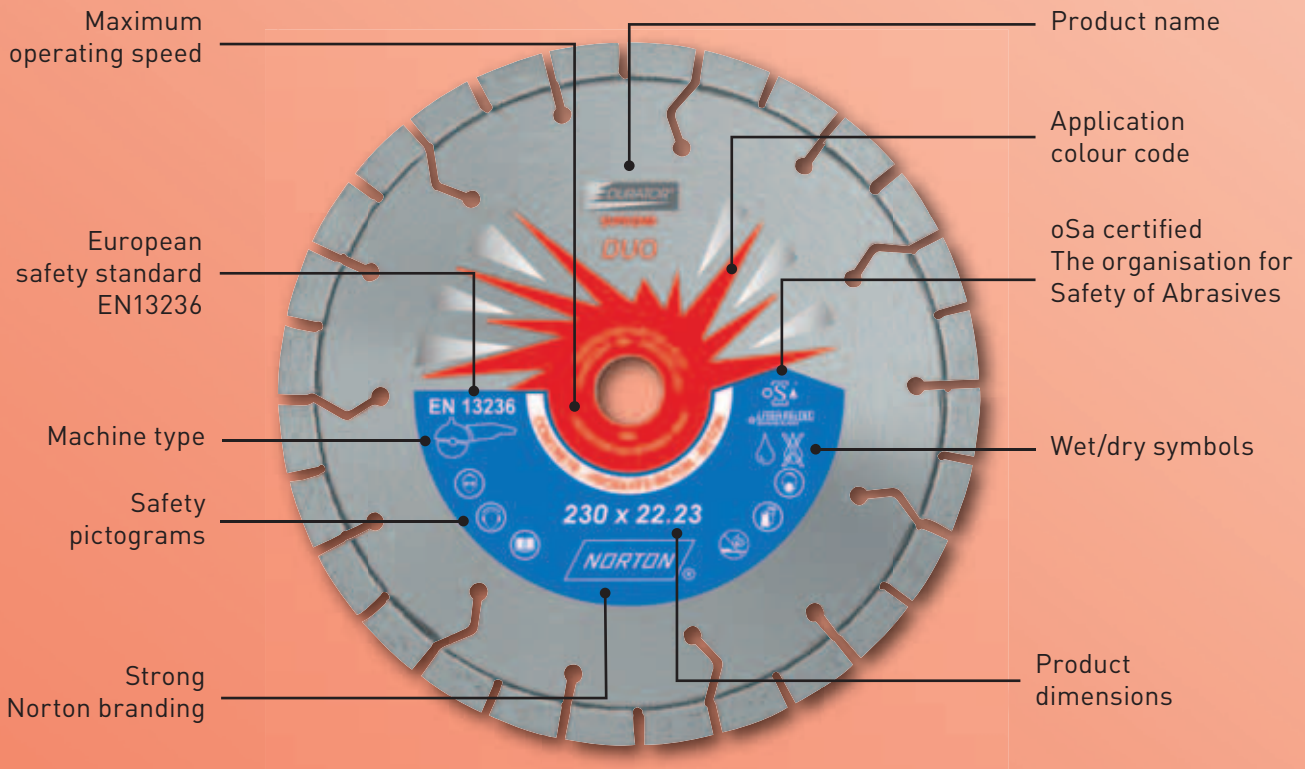
**398 CORE BITS**

**Diamond  
Blades**

Norton Diamond Blades are the ultimate abrasive cutting solution in construction and building industries. With a range of products suitable for use on concrete, tile, brick, and asphalt, Norton offers the best choice for every cutting and drilling application in the building/construction industry.

Norton, the industry's most comprehensive Diamond Blade product line.

## UNDERSTANDING THE PRODUCT

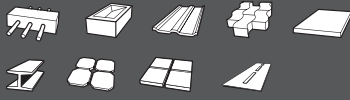
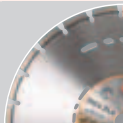

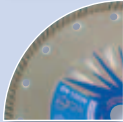








## DIFFERENTIATION IN THE RANGE

Norton offers the industry's widest selection of Diamond Blades to meet every customer requirement. The range is classified into 3 quality-tiers (Best/Better/Good) to help you choose the right product for your specific application.

<b>INNOVATION BEST</b>	The new Norton 4x4 Explorer, a multi-purpose blade designed to cut all materials	<b>BETTER</b>	High performance & high value professional products, ideal for regular use
<b>BEST</b>	The Supreme line offers a range of high performance tools that meet the needs of the most demanding user	<b>GOOD</b>	The Classic line provides a range of standard blades offering good levels of performance

Choosing the right diamond tool for the job is not always straight forward. For this reason Norton diamond blades are colour coded to ensure you pick the most appropriate tool for the job.

MULTI-PURPOSE		
GENERAL PURPOSE BUILDING MATERIALS		
CERAMIC & STONE TILES		
CONCRETE & REINFORCED CONCRETE		
ASPHALT & ABRASIVE MATERIALS		

For further information please go to the Technical Information Section at the back of this catalogue.

# ANGLE GRINDERS

Norton Diamond blades offer the user a cost-effective range of safe, easy to use products designed for use on all common types of building materials.

## APPLICATIONS & MARKETS

- Construction
- Renovation
- Maintenance
- Tiling
- Plumbing
- Engineering



INNOVATION

BEST

## SUPREME 4X4 EXPLORER



For use on granite, engineering bricks, hard paviors, reinforced concrete, concrete kerbs & slabs, medium block paviors, facing brick, concrete roof tiles, sandstone, asphalt over concrete & asphalt

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Designed to cut the widest range of materials</li> <li>■ Features the innovative patent-pending "depth of cut indicator"</li> </ul>	<ul style="list-style-type: none"> <li>■ Less need for blade changing so reduced down time &amp; increased productivity</li> <li>■ Helps optimise cutting speed &amp; blade life in step-cutting</li> </ul>
<ul style="list-style-type: none"> <li>■ Special patent-pending ellipsoid gullets &amp; specially treated steel centre</li> </ul>	<ul style="list-style-type: none"> <li>■ Increase fatigue resistance</li> <li>■ Directional arrows show the way of rotation for easy mounting</li> </ul>
<ul style="list-style-type: none"> <li>■ Not recommended for steel parts thicker than 5mm</li> </ul>	



APPLICATIONS KEY

MULTI-PURPOSE	
GENERAL PURPOSE BUILDING MATERIALS	
CERAMIC & STONE TILES	
CONCRETE & REINFORCED CONCRETE	
ASPHALT & ABRASIVE MATERIALS	

## SUPREME AERO JET



Suitable for use on very hard masonry materials, block paviors, granite & marble

### FEATURES

- Sintered, continuous rim diamond blade with corrugated steel centre
- Special blade geometry
- Protection segments
- Ventilated steel centre
- Heavy duty diamond blade

### BENEFITS

- Gives more rigidity
- Protect the steel centre & provide outstanding rigidity
- Provides efficient cooling during cutting
- Has extreme long life & an excellent cutting speed



BEST

## SUPREME CG2



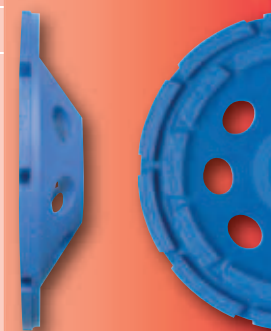
Suitable for surface grinding on all types of masonry materials

### FEATURES

- Double rim, brazed, segmented cup grinder

### BENEFITS

- Recommended for removal of shuttering marks



## SUPREME XT



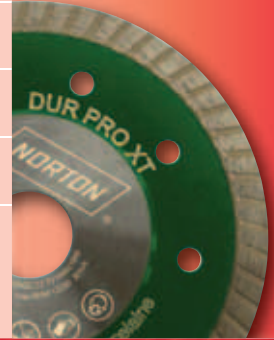
For use on granite slabs, ceramic tiles, quarry tiles, porcelain & terazzo

### FEATURES

- For professional cutting of tiles
- Extra-thin diamond blade
- Additional metal flanges on each side of the blade
- 10mm high continuous rim

### BENEFITS

- Best quality of cut & cutting speed even on the hardest tiles
- Prevents the steel-centre wobbling during the cut
- For longer product life



BEST

## SUPREME DUO



For use on engineering bricks, cured concrete, reinforced concrete, hard paviers, concrete paving slabs, concrete kerbs, concrete pipes, limestone, medium block paviers, & facing bricks

### FEATURES

- Laser-welded, segmented diamond blade
- 12mm segment height on 230mm diameter blades
- Double segments
- Very soft cut
- Special gullets indicate the way of rotation

### BENEFITS

- Extreme long life
- Exceptional cutting speed
- Low vibrations
- Easy to mount



## PROFESSIONAL JET



Suitable for use with engineering bricks, clay pipes/paviers, marble, clay roof tiles, concrete pipes/kerbs, slate, hard paviers, facing bricks, concrete roof tiles, medium block paviers, breeze blocks & concrete paving slabs

### FEATURES

- Sintered, corrugated continuous rim diamond blade
- 10mm segment height
- High-quality diamond blade

### BENEFITS

- Longer life
- Long life, excellent cutting speed & all round excellent performance



BETTER

BETTER

## PROFESSIONAL TP



Suitable for removing mortar prior to the rejoining of brick walls

### FEATURES

- Brazed, segmented diamond blade especially designed for the removal of mortar prior to rejoining
- Tungsten carbide tips

### BENEFITS

- Premium performance
- Gives undercutting protection



## PROFESSIONAL T



For use on all ceramic tiles, marble & slate

### FEATURES

- Sintered, continuous rim diamond blade
- High-quality diamond blade with excellent performance

### BENEFITS

- Long product life combined with an excellent cutting speed



## PROFESSIONAL LASER



For use on cured concrete, reinforced concrete, hard paviers, facing bricks, concrete paving slabs, concrete kerbs, concrete pipes, limestone, medium block paviers, concrete roof tiles & breeze blocks

### FEATURES

- Laser-welded, segmented diamond blade
- 10mm segment height
- Diamond-shape apertures on 230mm diamond blades

### BENEFITS

- Longer life
- Prevent over-heating of the diamond blade



## PROFESSIONAL ABRASIVE



For use on all abrasive materials including asphalt, tarmac top blocks, breeze blocks, sandstone, mortar jointing & green concrete

### FEATURES

- Laser-welded, segmented diamond blade
- Ideal for use on abrasive & very abrasive materials

### BENEFITS

- A high quality product for high demanding applications



GOOD

### CLASSIC JET



For use on engineering bricks, clay pipes/paviors, clay roof tiles, concrete pipes/kerbs, facing bricks, concrete roof tiles, medium block paviors, breeze blocks & concrete paving slabs

#### FEATURES

- Sintered, continuous rim diamond blade with corrugated segments
- Economy diamond blade

#### BENEFITS

- Value for money



### CLASSIC LASER



Cured concrete, concrete pipes, concrete kerbs, hard paviors, reinforced concrete, roof tiles, medium block paviors, concrete paving slabs

#### FEATURES

- Laser-welded, segmented diamond blade
- Economy diamond blade

#### BENEFITS

- Value for money



### CLASSIC UNI



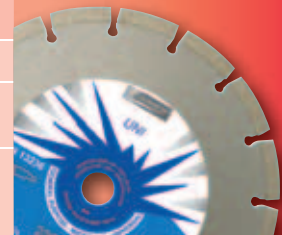
For use on concrete pipes, concrete kerbs, roof tiles, medium block paviors & concrete paving slabs

#### FEATURES

- Sintered, segmented diamond blade
- Economy diamond blade

#### BENEFITS

- Value for money
- Recommended for soft to medium hard materials  
Not recommended for very hard materials



### CLASSIC CGS



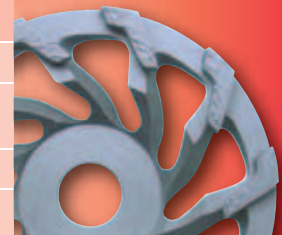
Suitable for surface grinding of all types of masonry materials

#### FEATURES

- Single rim, brazed, segmented cup grinder
- Slant segments
- Hollow steel centre

#### BENEFITS

- Value for money
- Makes the product very light weight



### CLASSIC T



Suitable for use on ceramic tiles

#### FEATURES

- Sintered, continuous rim diamond blade
- Economy diamond blade

#### BENEFITS

- Value for money



# PRODUCT SELECTION

USAGE KEY	INNOVATION	Supreme	Supreme	Supreme	Supreme	Professional	Professional	Professional	Professional	Professional	Classic	Classic	Classic	Classic	CUP GRINDERS	Supreme	Classic
		4x4 Explorer	Aero Jet	XT	Duo	Jet	TP	T	Laser	Abrasives	Jet	Laser	Uni	T		CG2	CG5
			BEST			BETTER					GOOD					BEST	GOOD
Steel																	
Granite																	
Engineering bricks																	
Cured concrete																	
Clay/pipes/paviors																	
Quarry tiles																	
Marble																	
Hard paviors																	
Clay roof tiles																	
Terrazo																	
Facing bricks																	
Reinforced concrete																	
Concrete paving slabs																	
Concrete pipes/kerbs																	
Slate																	
Limestone concrete																	
Medium block paviors																	
Concrete roof tiles																	
Sandstone																	
Asphalt over concrete																	
Breeze blocks																	
Tarmac top blocks																	
Mortar jointing																	
Asphalt																	
Green concrete																	

			<b>MULTI-PURPOSE</b>	
			<b>SUPREME 4x4 EXPLORER</b>	
DIA (mm)	HxTxB (mm)	PK QTY	INNOVATION	BEST
115	10,0x2,2x22,23	1		701846 <b>25307</b>
125	10,0x2,2x22,23	1		701846 <b>25308</b>
230	10,0x2,5x22,23	1		701846 <b>23858</b>

			<b>GENERAL PURPOSE BUILDING MATERIALS</b>							
			<b>SUPREME AERO JET</b>	<b>SUPREME CG2</b>	<b>PRO JET</b>	<b>PRO TP</b>	<b>CLASSIC JET</b>	<b>CLASSIC LASER</b>	<b>CLASSIC UNI</b>	<b>CLASSIC CGS</b>
DIA (mm)	HxTxB (mm)	PK QTY	BEST		BETTER		GOOD			
100	22,23/16	1		701846 <b>10268</b>						
105	22,23	1								701846 <b>24781</b>
115	12,0x2,2x22,23	1	701846 <b>23600</b>							
	10,0x1,8x22,23	1							701846 <b>14123</b>	
	10,0x2,1x22,23	1					701846 <b>14090</b>			
	10,0x2,2x22,23	1			701846 <b>11156</b>					
	7,0x2,2x22,23	1						701846 <b>14119</b>		
	6,5x4,5x22,23	1				701846 <b>10712</b>				
	6,5x6,5x22,23	1				701846 <b>10305</b>				
	6,5x8,0x22,23	1				701846 <b>10715</b>				
125	12,0x2,2x22,23	1	701846 <b>23601</b>							
	10,0x1,8x22,23	1							701846 <b>14124</b>	
	10,0x2,1x22,23	1			701846 <b>11157</b>		701846 <b>14091</b>			
	7,0x2,2x22,23	1						701846 <b>14120</b>		
	6,5x4,5x22,23	1				701846 <b>10713</b>				
	6,5x6,5x22,23	1				701846 <b>10307</b>				
	6,5x8,0x22,23	1				701846 <b>10716</b>				
	22,23(FLAT)	1		701846 <b>11096</b>						
	22,23	1		701846 <b>10363</b>						701846 <b>23049</b>
150	10,0x2,2x22,23	1							701846 <b>26005</b>	
	22,23/19	1								701846 <b>24760</b>
180	10,0x2,2x22,23	1					701846 <b>14092</b>		701846 <b>14125</b>	
	7,0x2,5x22,23	1						701846 <b>14122</b>		
	22,23	1		701846 <b>10270</b>						701846 <b>24782</b>
230	12,0x2,8x22,23	1	701846 <b>23181</b>							
	10,0x2,2x22,23	1							701846 <b>14126</b>	
	10,0x2,5x22,23	1					701846 <b>14093</b>	701846 <b>11169</b>		
	10,0x2,6x22,23	1			701846 <b>11162</b>					

Dimensions Key: DIA = Diameter, H = Height, T = Thickness, B = Bore



**CERAMIC & STONE TILES**



			<i><b>SUPREME XT</b></i>	<i><b>PROFESSIONAL T</b></i>	<i><b>CLASSIC T</b></i>
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER	GOOD
115	10,0x1,2,22,23	1	70184621964		
	9,0x1,6x22,23	1		70184626074	
	7,0x1,5x22,23	1			70184614094
125	10,0x1,2x22,23	1	70184621966		
	9,0x1,6x22,23	1		70184626075	
	7,0x1,6x22,23	1			70184614095
180	9,0x1,6x22,23	1		70184626076	
	7,0x1,7x22,23	1			70184614096
230	10,0x1,8x22,23	1	70184621972		



**CONCRETE & REINFORCED CONCRETE**



			<i><b>SUPREME DUO</b></i>	<i><b>PROFESSIONAL LASER</b></i>
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER
115	10,0x2,2x22,23	1		70184612290
125	10,0x2,2x22,23	1		70184612291
230	12,0x2,8x22,23	1	70184612087	
	10,0x2,5x22,23	1		70184612292



**ASPHALT & ABRASIVE MATERIALS**



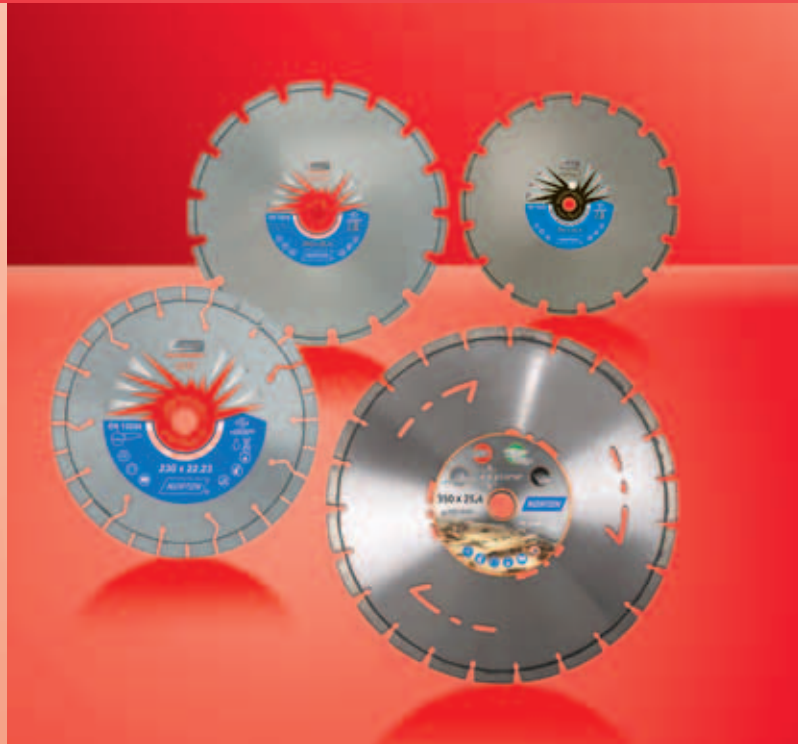
			<i><b>PROFESSIONAL ABRASIVE</b></i>
DIA (mm)	HxTxB (mm)	PK QTY	BETTER
115	7,0x2,2x22,23	1	70184611170
125	7,0x2,2x22,23	1	70184611171
230	7,0x2,5x22,23	1	70184611174

# PETROL HAND HELD & FLOOR SAWS

Norton offers a large range of high performance diamond tools for all applications and user needs.

## APPLICATIONS & MARKETS

- Construction
- Civil Engineering
- Road Contractors



## SUPREME 4X4 EXPLORER



For use on granite, engineering bricks, hard paviors, reinforced concrete, concrete kerbs & slabs, medium block paviors, facing brick, concrete roof tiles, sandstone, asphalt over concrete & asphalt

### FEATURES

- Designed to cut the widest range of materials
- Features the innovative patent-pending "depth of cut indicator"
- Special patent-pending ellipsoid gullets & specially treated steel centre
- Not recommended for steel parts thicker than 5mm

### BENEFITS

- Less need for blade changing so reduced down time & increased productivity
- Helps optimise cutting speed & blade life in step-cutting
- Increase fatigue resistance
- Directional arrows show the way of rotation for easy mounting



INNOVATION  
BEST

APPLICATIONS  
KEY

MULTI-PURPOSE	
GENERAL PURPOSE BUILDING MATERIALS	
CERAMIC & STONE TILES	
CONCRETE & REINFORCED CONCRETE	
ASPHALT & ABRASIVE MATERIALS	

**BEST**

## SUPREME DUO



For use only with hand held petrol saws on engineering bricks, cured concrete, reinforced concrete, hard paviers, concrete paving slabs, concrete kerbs, concrete pipes, limestone, medium block paviers & facing bricks

### FEATURES

- Laser-welded, segmented diamond blade
- 10mm segment height
- Double segments
- Very soft cut
- Special gullets indicate the way of rotation

### BENEFITS

- Extreme long life
- Exceptional cutting speed
- Low vibrations
- Easy to mount



**BETTER**

## PROFESSIONAL BETON



For use on cured concrete, reinforced concrete, concrete paving slabs, concrete pipes/kerbs, medium block paviers & concrete roof tiles

### FEATURES

- Laser-welded diamond blade with 10mm segment height
- Features the innovative patent-pending "depth of cut indicator"
- High-quality diamond blade for professional requirements

### BENEFITS

- The perfect device to optimise cutting speed & blade life in step-cutting. It also shows the way of rotation for an easier mounting of the diamond blade
- Excellent performance



## PROFESSIONAL ASPHALT



For use on all abrasive materials including asphalt, tarmac top blocks, breeze blocks, sandstone, mortar jointing & green concrete

### FEATURES

- Laser-welded diamond blade with 7mm segment height
- Features the innovative patent-pending "depth of cut indicator"
- High-quality diamond blade for professional requirements

### BENEFITS

- The perfect device to optimise cutting speed & blade life in step-cutting. It also shows the way of rotation for an easier mounting of the diamond blade
- Slant segments protect against undercutting giving excellent performance



## QUICKFIX REDUCTION RINGS



For use only with petrol saws

## FEATURES

- A patented device designed to safely convert blade bores to suit different machines
- Converts 300mm & 350mm x 25,4mm or 22,23mm bore to 20mm

## BENEFITS

- Can reduce inventory



## PRODUCT SELECTION

USAGE KEY	Supreme	Supreme	Professional	Professional
	4x4 Explorer	Duo	Beton	Asphalt
	Highly recommended Recommended			
	INNOVATION		BETTER	
	BEST	BEST		
Steel	■			
Granite	■	■		
Engineering bricks	■	■		
Cured concrete	■	■	■	
Clay/pipes/paviors	■	■		
Quarry tiles		■		
Marble		■		
Hard paviors	■	■	■	
Clay roof tiles	■	■		
Terrazo		■		
Facing bricks	■	■	■	
Rienforced concrete	■	■	■	
Concrete paving slabs	■	■	■	
Concrete pipes/kerbs	■	■	■	
Slate		■		
Limestone concrete	■	■	■	
Medium block paviors	■	■	■	
Concrete roof tiles	■	■	■	
Sandstone	■	■		■
Asphalt over concrete	■			■
Breeze blocks	■	■	■	■
Tarmac top blocks	■			■
Asphalt	■			■
Green concrete				■

**MULTI-PURPOSE**
**SUPREME 4x4 EXPLORER**

DIA (mm)	HxTxB (mm)	PK QTY	INNOVATION	BEST
300	10,0x2,8x20	1		70184622936
	10,0x2,8x25,4	1		70184622937
350	10,0x3,0x20	1		70184622938
	10,0x3,0x25,4	1		70184622939
400	10,0x3,2x20	1		70184623897
	10,0x3,2x25,4	1		70184623899
450	10,0x3,4x25,4	1		70184625430

**CONCRETE & REINFORCED CONCRETE**

DIA (mm)	HxTxB (mm)	PK QTY	SUPREME DUO*	PROFESSIONAL BETON
			BEST	BETTER
300	10,0x2,8x20	1	70184620039	70184625424
	10,0x2,8x25,4	1	70184625422	
350	10,0x3,2x20	1	70184620040	
	10,0x3,2x25,4	1	70184625423	70184625425

\*Only for use with petrol saws

**ASPHALT & ABRASIVE MATERIALS**

DIA (mm)	HxTxB (mm)	PK QTY	PROFESSIONAL ASPHALT
			BETTER
300	7,0x2,8x20	1	70184611852
	7,0x2,8x25,4	1	70184611854
350	7,0x3,2x20	1	70184611855
	7,0x3,2x25,4	1	70184611856

**QUICKFIX REDUCTION RINGS**

DIA (mm)	BORE (mm)	PK QTY	QUICKFIX
103	25,4/22,23	1	70184622589
	25,4/22,23/20	1	70184623894

**Dimensions Key:** DIA = Diameter, H = Height, T = Thickness, B = Bore

Norton offers the best range of diamond tools for masonry saws ensuring great performance and clean results in wet cutting conditions.

## APPLICATIONS & MARKETS

- Construction



INNOVATION  
BEST

## SUPREME 4X4 EXPLORER



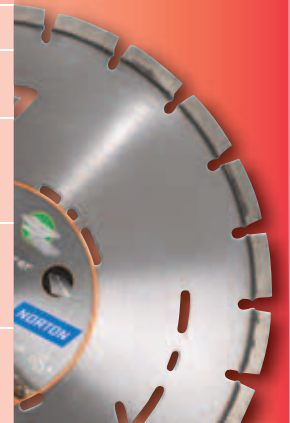
For use on granite, engineering bricks, hard paviors, reinforced concrete, concrete kerbs & slabs, medium block paviors, facing brick, concrete roof tiles, sandstone, asphalt over concrete & asphalt

### FEATURES

- Designed to cut the widest range of materials
- Features the innovative patent-pending "depth of cut indicator"
- Special patent-pending ellipsoid gullets & specially treated steel centre
- Not recommended for steel parts thicker than 5mm

### BENEFITS

- Less need for blade changing so reduced down time & increased productivity
- Helps optimise cutting speed & blade life in step-cutting
- Increase fatigue resistance
- Directional arrows show the way of rotation for easy mounting



APPLICATIONS  
KEY

MULTI-PURPOSE	
GENERAL PURPOSE BUILDING MATERIALS	
CERAMIC & STONE TILES	
CONCRETE & REINFORCED CONCRETE	
ASPHALT & ABRASIVE MATERIALS	

**BEST**

## SUPREME DUO TS



For use on general purpose masonry materials, granite, concrete slabs, reinforced concrete, hard paviors, hard facing bricks, concrete roof tiles

### FEATURES

- Laser-welded diamond blade
- 12mm segment height
- High quality diamond blade
- Trapezoidal segments

### BENEFITS

- Long product life
- Extremely high cutting speed
- Provide the quality of cut of a continuous rim with the safety of a laser-welded blade



## SUPREME XT



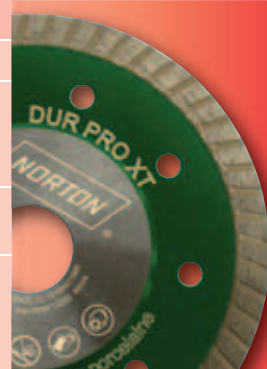
For use on the hardest building materials, granite slabs, ceramic tiles, quarry tiles, porcelain, terrazzo

### FEATURES

- Extra-thin diamond blade
- Additional metal flanges
- 10mm continuous rim

### BENEFITS

- For professional cutting of tiles
- The best quality of cut & cutting speed even on the hardest tiles
- Prevent wobbling of the steel-centre during the cut
- Longer product life



## SUPREME DUO



For use on engineering bricks, cured concrete, reinforced concrete, hard paviors, concrete paving slabs, concrete kerbs, concrete pipes, limestone, medium block paviors, facing bricks

### FEATURES

- Laser-welded, segmented diamond blade
- 10mm segment height
- Double segments
- Very soft cut
- Special gullets indicate the way of rotation

### BENEFITS

- Extreme long life
- Exceptional cutting speed
- Low vibrations
- Easy to mount



## PROFESSIONAL BS



For use on general purpose masonry materials, breeze blocks, concrete paving slabs & concrete pipes/kerbs

### FEATURES

- Brazed, segmented diamond blade

### BENEFITS

- Ideal for abrasive to medium hard material



## PROFESSIONAL CERAM



For use on ceramic tiles, stone tiles, marble granite, terrazzo & limestone

### FEATURES

- Sintered, continuous rim diamond blade
- 9mm segment height
- Heavy duty diamond blade

### BENEFITS

- Excellent cutting speed, producing a very clean cut
- Long life
- Ideal for glazed materials



## PROFESSIONAL GRANIT



For use on granite, hard materials, engineering bricks, hard paviers & slate

### FEATURES

- Laser-welded diamond blade
- 10mm segment height
- Professional blade for intensive use

### BENEFITS

- Excellent cutting speed
- Long life



## PROFESSIONAL BETON



For use on cured concrete, reinforced concrete, concrete paving slabs, concrete pipes/kerbs, medium block paviers & concrete roof tiles

### FEATURES

- Laser-welded diamond blade with 10mm high segments
- Features the innovative patent-pending "depth of cut indicator"
- High-quality diamond blade

### BENEFITS

- The perfect device to optimise cutting speed & blade life in step-cutting. It also shows the way of rotation for an easier mounting of the diamond blade
- Excellent performance



BETTER

## CLASSIC UNITS

GOOD



For use on general purpose masonry materials

### FEATURES

- Laser-welded diamond blade
- Good performance

### BENEFITS

- Ideal for abrasive to medium hard material
- Good product life & high cutting speed



# PRODUCT SELECTION

USAGE KEY	INNOVATION	Supreme	Supreme	Supreme	Supreme	Professional	Professional	Professional	Professional	Classic
		4x4 Explorer	Duo TS	XT	Duo	BS	Ceram	Granit	Beton	Uni TS
			BEST				BETTER			
Steel										
Granite										
Engineering bricks										
Cured concrete										
Clay/pipes/paviors										
Quarry tiles										
Marble										
Hard paviors										
Clay roof tiles										
Terrazo										
Facing bricks										
Reinforced concrete										
Concrete paving slabs										
Concrete pipes/kerbs										
Slate										
Limestone concrete										
Medium block paviors										
Concrete roof tiles										
Sandstone										
Asphalt over concrete										
Breeze blocks										
Tarmac top blocks										
Asphalt										



## MULTI-PURPOSE



### SUPREME 4x4 EXPLORER

DIA (mm)	HxTxB (mm)	PK QTY	INNOVATION	BEST
300	10,0x2,8x25,4	1		70184622937
350	10,0x3,0x25,4	1		70184622939
400	10,0x3,2x25,4	1		70184623899
450	10,0x3,4x25,4	1		70184625430

			<b>GENERAL PURPOSE BUILDING MATERIALS</b>		
			<b>SUPREME DUO TS</b>	<b>PROFESSIONAL BS</b>	<b>CLASSIC UNI TS</b>
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER	GOOD
300	12,0x2,8x30/25,4	1	70184612502		
	10,0x2,5x25,4	1			70184611185
350	12,0x2,8x30/25,4	1	70184612503		
	10,0x2,8x255,4	1			70184611186
400	10,0x3,2x25,4	1	70184611438		
650	7,0x4,4x25,4	1		70184620425	
700	7,0x4,4x55	1		70184620426	
900	7,0x4,4x60	1		70184620428	

			<b>CERAMIC &amp; STONE TILES</b>		
			<b>SUPREME XT</b>	<b>PROFESSIONAL CERAM</b>	<b>PROFESSIONAL GRANIT</b>
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER	
150	9,0x1,6x25,4	1		70184626077	
180	9,0x1,6x25,4	1		70184626078	
200	10,0x1,6x25,4	1	70184625427		
	9,0x1,6x25,4	1		70184626079	
	9,0x1,6x30	1		70184626080	
250	10,0x1,6x25,4	1	70184625428		
	9,0x1,6x25,4	1		70184626081	
300	10,0x1,8x25,4	1	70184625429		
	10,0x2,5x25,4	1			70184611187
	9,5x2,0x25,4	1		70184626082	
350	10,0x2,8x25,4	1			70184611188
	9,5x2,0x25,4	1		70184626083	

			<b>CONCRETE &amp; REINFORCED CONCRETE</b>		
			<b>SUPREME DUO</b>	<b>PROFESSIONAL BETON</b>	
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER	
300	10,0x2,8x25,4	1	70184625422		
350	10,0x3,2x25,4	1	70184625423	70184625425	

**Dimensions Key:** DIA = Diameter, H = Height, T = Thickness, B = Bore

Norton tile saw blades come in a range of sizes designed to all common tile saw machines.

### APPLICATIONS & MARKETS

- Construction
- Tiling
- Bathroom fitting
- Kitchen fitting



BETTER

## PROFESSIONAL CERAM









For use on ceramic tiles, stone tiles, marble granite, terrazzo & limestone


FEATURES	BENEFITS
■ Sintered, continuous rim diamond blade	■ Excellent cutting speed, producing a very clean cut
■ 9mm segment height	■ Long life
■ Heavy duty diamond blade	■ Ideal for glazed materials



GOOD


## CLASSIC T





For use on ceramic tiles

FEATURES	BENEFITS
■ Sintered, continuous rim diamond blade	
■ Economy range	■ Value for money



# PRODUCT SELECTION

<b>USAGE KEY</b>  Highly recommended  Recommended 	Professional	Classic
	Ceram	T
	BETTER	GOOD
Granite		
Clay/pipes/paviors		
Quarry tiles		
Marble		
Terrazo		
Slate		

 <b>CERAMIC &amp; STONE TILES</b> 				
			<b>PROFESSIONAL CERAM</b>	<b>CLASSIC T</b>
			BETTER	GOOD
DIA (mm)	HxTxB (mm)	PK QTY		
150	9,0x1,6x25,4	1	701846 <b>24202</b>	
180	9,0x1,6x25,4	1	701846 <b>11279</b>	
	7,0x1,7x25,4	1		701846 <b>12204</b>
200	9,0x1,6x25,4	1	701846 <b>11190</b>	
	7,0x1,8x30/25,4	1		701846 <b>12206</b>
	9,0x1,6x30	1	701846 <b>11191</b>	
230	7,0x1,8x25,4	1		701846 <b>12207</b>
250	9,0x1,6x25,4	1	701846 <b>10597</b>	
300	9,0x2,0x25,4	1	701846 <b>11192</b>	
350	9,0x2,4x25,4	1	701846 <b>11193</b>	

**Dimensions Key:** DIA = Diameter, H = Height, T = Thickness, B = Bore

# CORE BITS

Norton core bits are extremely high performance products, and give an extremely good cutting speed and a long product life. The products meet the professional requirements of all users in industrial markets, including builders, electricians and plumbers. They are recommended for use on motors up to 1400w.




## APPLICATIONS & MARKETS


- For installation of electrical wall sockets & switches
- For use on cured concrete, reinforced concrete & bricks



BEST


## SUPREME DDL



Suitable for drilling domestic & industrial installation of electrical wall sockets & switches

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>■ Laser-welded core bit</li> </ul>	<ul style="list-style-type: none"> <li>■ High speed &amp; long product life</li> </ul>
<ul style="list-style-type: none"> <li>■ Useful length 150mm, connection M16</li> </ul>	



APPLICATIONS KEY

MULTI-PURPOSE	
GENERAL PURPOSE BUILDING MATERIALS	
CERAMIC & STONE TILES	
CONCRETE & REINFORCED CONCRETE	
ASPHALT & ABRASIVE MATERIALS	

BETTER

## PROFESSIONAL DD5



Suitable for drilling domestic & industrial installation of electrical wall sockets & switches

### FEATURES

- Heavy welded segmented core bit
- Heavy diamond tool
- Connection R1/2

### BENEFITS

- Extreme long life
- Excellent cutting speed



## PROFESSIONAL DK



For use on cured concrete, reinforced concrete & bricks

### FEATURES

- Back end R 1/2"
- Length 300mm
- Excellent performance for professional requirements
- Recommended for engines up to 1.400W

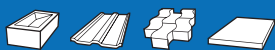
### BENEFITS

- Excellent cutting speed and long product life



GOOD

## CLASSIC KSZ



Suitable for drilling domestic & industrial installation of electrical wall sockets & switches

### FEATURES

- Laser-welded segments
- For dry & wet drilling
- Heavy diamond tool
- Useful length
- Connection M16

### BENEFITS

- Extreme long life
- Excellent cutting speed



## CLASSIC CDE



For use on reinforced concrete, cured concrete & normal aggregates

### FEATURES




























- Good quality product
- Back end 1 1/4" UNC
- Length 450mm

### BENEFITS

- Good cutting speed



## PRODUCT SELECTION

USAGE KEY	CORE BITS	Supreme	Professional	Classic	CORE BITS	Professional	Classic
		DDL	DD5	KSZ		DK	CDE
							
		BEST	BETTER	GOOD		BETTER	GOOD
Cured concrete							
Hard paviors							
Reinforced concrete							
Concrete paving slabs							
Medium block paviors							
Asphalt							





**CORE BITS – DRY**



				<b>SUPREME DDL</b>	<b>PROFESSIONAL DD5</b>	<b>CLASSIC KSZ</b>
DIA (mm)	Useful Length (mm)	Segment Height (mm)	PK QTY	BEST	BETTER	GOOD
28	300	7	1		70184620351	
36	150	7	1	70184623577		
38	150	7	1		70184620352	
52	150	7	1	70184623580	70184620353	
65	150	7	1	70184622640		
68	60	7	1			70184620422
78	150	7	1		70184620354	
82	60	7	1			70184620423
	150	7	1	70184622641		
102	150	7	1	70184623582		
107	150	7	1	70184622642	70184620355	
117	150	7	1		70184620356	
127	150	7	1	70184622643	70184620357	
152	150	7	1	70184623584	70184620358	
162	150	7	1	70184622644		

Dimensions Key: DIA = Diameter



## CORE BITS – WET





				<b>PROFESSIONAL DK</b>	<b>CLASSIC CDE</b>
DIA (mm)	Useful Length (mm)	Segment Height (mm)	PK QTY	BETTER	GOOD
12	300	7	1	70184612946	
14	300	7	1	70184612947	
16	300	7	1	70184612823	
18	300	7	1	70184612824	
22	300	7	1	70184612826	
25	300	7	1	70184612827	
28	300	7	1	70184612828	
30	300	7	1	70184612829	
32	300	7	1	70184612830	
35	300	7	1	70184612831	
40	300	7	1	70184612834	
51	300	7	1	70184612835	
	450	7	1		70184613201
56	450	7	1		70184613202
61	300	7	1	70184612836	
	450	7	1		70184613203
66	450	7	1		70184613204
70	300	7	1	70184612848	
71	450	7	1		70184613205
76	450	7	1		70184613206
81	300	7	1	70184612846	
	450	7	1		70184613207
86	450	7	1		70184613208
91	450	7	1		70184613209
101	450	7	1		70184613210
106	450	7	1		70184613211
111	450	7	1		70184613212
121	450	7	1		70184613213
126	450	7	1		70184613214
131	450	7	1		70184613215
141	450	7	1		70184613216
151	450	7	1		70184613217
161	450	7	1		70184613218
171	450	7	1		70184613219
181	450	7	1		70184613220
191	450	7	1		70184613221
201	450	7	1		70184613222
211	450	7	1		70184613223
225	450	7	1		70184613252
251	450	7	1		70184613224
271	450	7	1		70184613253
300	450	7	1		70184613225

Dimensions Key: DIA = Diameter




**NORTON**



**404 CUTTING-OFF  
& GRINDING WHEELS**  
- TECHNICAL INFORMATION  
- TROUBLESHOOTING  
- SAFETY ADVICE



**412 COATED ABRASIVES**  
- TECHNICAL INFORMATION  
- SAFETY ADVICE



**423 BONDED ABRASIVES**  
- TECHNICAL INFORMATION  
- TROUBLESHOOTING  
- SAFETY ADVICE





**437 SUPER ABRASIVES**  
- TECHNICAL INFORMATION  
- TROUBLESHOOTING

**442 DIAMOND BLADES**  
- TECHNICAL INFORMATION  
- TROUBLESHOOTING  
- SAFETY ADVICE

**Technical  
Information**

## TECHNICAL INFORMATION

### SHAPE SPECIFICATION SYSTEM

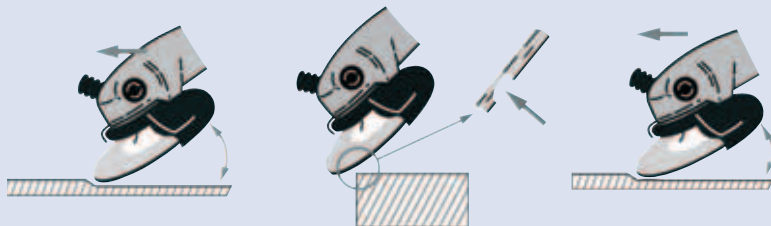
BF 27 	BF 29 	BF 41 	BF 42 
Depressed centre grinding wheels. Available in diameters 76-230mm for hand-held machines	Depressed centre grinding wheels. Available in diameters 115mm & 125mm for hand-held machines	Flat cutting-off wheels. Available in diameters 40-400mm for hand-held machines & 250-400mm for stationery machines	Depressed centre cutting-off wheels. Available in diameters 76-230mm for hand-held machines
Application: grinding	Application: grinding	Application: cutting-off	Application: cutting-off

### RECOMMENDED PRACTICE

#### PORTABLE GRINDERS

##### GRINDING Rough Work

- Do not use a cutting-off wheel for snagging
- Do not work with the side of a wheel, you will cut the reinforcing cloths
- Work at an angle of 10 to 30° with a longitudinal action



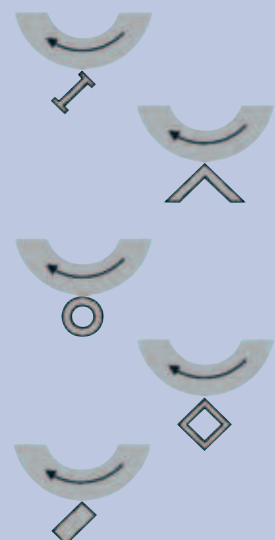
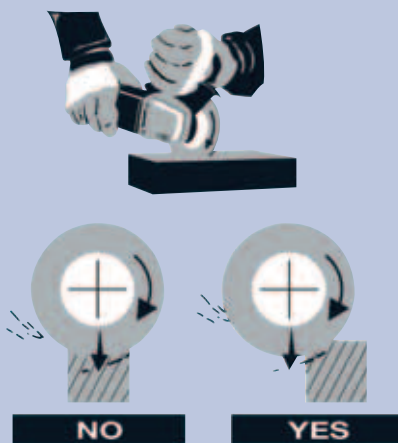
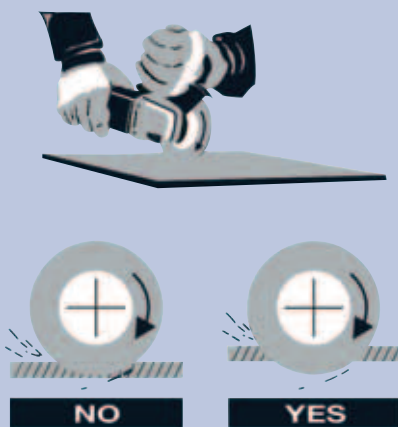
##### GRINDING Finishing Work

- Angle of work 15°
- Rotary action



#### CUTTING-OFF

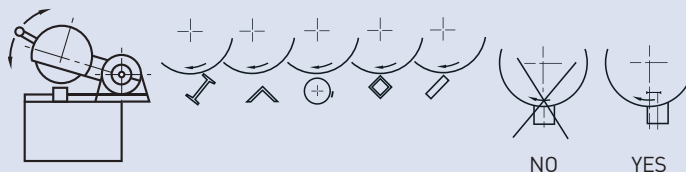
- Arrange the workpiece so that a uniform section can be cut



## FIXED MACHINE

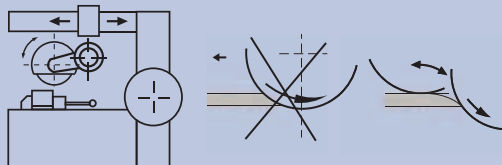
### DOWNSTROKE HEADS

- Lay out the shape parts in order to have a constant section
- Avoid any wedging of the grinding wheel
- Make sure the wheel is cleared



### AUTOMATIC FEED

- In the case of thick parts, use the reciprocating motion of the carriage

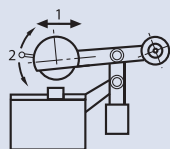


### OSCILLATING HEADS

OPERATING MODE

- 1 - Oscillating
- 2 - Cutting-off

- Do not use this type of machine with a downstroke action

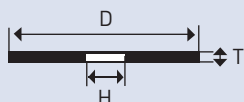


## TYPES OF REINFORCEMENT

### STRAIGHT WHEELS

#### TYPE 41

- Especially designed for heavy duty applications. These wheels are reinforced with one or several cloth layers or incorporate a fibreglass structure



#### CENTRAL CLOTH-NA3

- For use on fixed machines. Not for use on portable machines



#### EXTERNAL CLOTH-NA

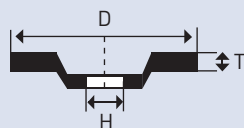
- For use on portable or fixed machines



### DEPRESSED CENTRE WHEELS

#### TYPES 27 & 42

- Especially designed for portable or suspended machines. These wheels are reinforced with a cloth or fibreglass structure



#### CUTTING-OFF TYPE 42



#### GOUGING TYPE 27



#### ROUGHING TYPE 27



## SPEED STRIPES

To help the identification of the maximum operating speed of a wheel, all cutting-off and grinding wheels that can operate at speeds greater than 50m/s, display a coloured stripe across their diameter. Different maximum operating speeds have different colours.

## MAXIMUM OPERATING SPEED

SPEED STRIPE COLOUR	MOS (m/s)
Green	100
Red	80
Yellow	63

The maximum operating speed that corresponds to each colour should never be exceeded

## PERSONAL PROTECTION

Safety goggles, ear defenders, safety gloves, dust masks and, if conditions are severe, additional face protection. Leather aprons and safety shoes must be worn.



Mouth Protection



Wear Gloves



Eye Protection



Ear Protection



Read Instructions



Damaged Wheel  
– Do not use



Dry



Wet

## GENERAL PRECAUTIONS

Safety instructions provided by the machine manufacturers must be followed. Where fitted, all guards, covers and hoods must be in place on the machine during grinding, and should not be modified in any way. Abrasives should not be used near inflammable material or in an environment where there is a risk of explosion.

Sparks should be directed away from the face and body, if possible towards the floor. Dust extraction equipment must be used whenever it is available. The instructions for use given by the abrasive manufacturer must be followed e.g. 'Not to be used without a support', or 'Not to be used for wet grinding'. The workpiece must be firmly fixed before grinding starts. Check all abrasives visually before use and make certain that the product is suitable for the application. No modifications should be made to abrasive products after delivery.

When using a portable grinder always switch it off and allow the spindle to stop completely before putting the tool down. Wet grinding should only be carried out on machines designed for this purpose and with abrasives designated as suitable for this type of operation.

## OPERATING SPEEDS

Norton products are designed and tested for certain applications and operating speeds. Choose a wheel suitable for the application material. Suitable materials are indicated on the wheel label. Before mounting the grinding or cutting-off wheel on the machine, ensure that the operating speed of the machine does not exceed the maximum operating speed as it is marked on the product.

WHEEL DIAMETER (mm)	SPEED CONVERSION FOLLOWING EN 12413								
	MAXIMUM OPERATING SPEED (RPM)								
	35	40	50	63	80	100	125	140	160
6	112000	128000	160000	201000					
8	84000	95500	120000	150500	191000				
10	67000	76500	95500	120500	153000	191000			
13	51500	58800	73500	92600	118000	147000	184000	206000	
16	41800	47800	59700	75200	95500	120000	150000	168000	191000
20	33500	38200	47800	60200	76500	95500	120000	134000	153000
25	26800	30600	38200	48200	61200	76500	95500	107000	123000
32	20900	23900	30000	37600	48000	60000	75000	84000	95500
40	16750	19100	23900	30100	38200	47200	59700	67000	76500
50/51	13400	15300	19100	24100	30600	38200	47750	53500	61200
63/65	10650	12150	15200	19100	24300	30250	37900	42500	48500
76	8800	10100	12600	15850	20150	25150	31450	35200	40250
80	8400	9550	12000	15100	19100	23900	29850	33500	38200
85	7900	9000	11250	14200	18000	22500	28100	31500	36000
100/102	6700	7650	9550	12100	15300	19100	23900	26800	30600
115	5850	6650	8350	10500	13300	16650	20800	23250	26600
125	5350	6150	7650	9650	12250	15300	19100	21400	24500
150/152	4500	5100	6400	8050	10200	12700	16000	17850	20400
180	3750	4250	5350	6700	8500	10650	13300	14900	17000
200	3350	3850	4800	6050	7650	9550	11950	13400	15300
230	2950	3350	4200	5250	6650	8350	10400	11650	13300
250/254	2700	3100	3850	4850	6150	7650	9550	10700	12250
300/305	2250	2550	3200	4050	5100	6400	8000	8950	10200
350/356	1950	2200	2750	3450	4400	5500	6850	7650	8750
400/406	1700	1950	2400	3050	3850	4800	6000	6700	7650
450/457	1500	1700	2150	2700	3400	4250	5350	5950	6800
500/508	1350	1550	1950	2450	3100	3850	4800	5350	6150
600/610	1150	1300	1600	2050	2550	3200	4000	4500	5100
750/762	895	1050	1300	1650	2050	2550	3200	3600	4100
800/813	840	960	1200	1550	1950	2400	3000	3350	3850
900/914	750	850	1100	1350	1700	2150	2700	3000	3400
1000/1020	670	765	960	1250	1550	1950	2400	2700	3100

## TROUBLESHOOTING

## CUTTING-OFF WHEELS

## WHEEL DOES NOT CUT

<b>Cause</b>	In case of blue cutting: wheel too hard or too thick
<b>Solution</b>	Use softer or Norton Thin Cut wheels, check peripheral speed
<b>Cause</b>	Peripheral speed too low
<b>Solution</b>	Increase rpm up to max. (80m/sec)

## EXCESSIVE WEAR

<b>Cause</b>	In case of white cutting edge: wheel too soft
<b>Solution</b>	Use harder wheel
<b>Cause</b>	Operating speed too low
<b>Solution</b>	Increase rpm up to max (80m/sec)
<b>Cause</b>	Decrease of rpm during cutting
<b>Solution</b>	Use machine with more power, reduce pressure on the machine

## CRUMBLD WHEEL EDGE

<b>Cause</b>	Cutting-off wheel used for grinding operations
<b>Solution</b>	Use a grinding wheel for grinding operations
<b>Cause</b>	Workpiece is moving
<b>Solution</b>	Clamp the workpiece properly
<b>Cause</b>	Too much side-pressure
<b>Solution</b>	Add only the radial pressure to the wheel

## ARBOR HOLE OR CENTRE BREAK OUT

<b>Cause</b>	Wheel sticks in the workpiece/material
<b>Solution</b>	Use more radial pressure & swing the wheel forwards and backwards
<b>Cause</b>	Cutting-off wheel used for grinding operations
<b>Solution</b>	Use a grinding wheel for grinding operations
<b>Cause</b>	Too much side pressure
<b>Solution</b>	Add only the radial pressure to the wheel
<b>Cause</b>	Different diameter top/bottom flange
<b>Solution</b>	Use flanges with the same diameter

## GRINDING WHEELS

### WHEEL DOES NOT CUT

<b>Cause</b>	Wheel too hard, wheelglazing
<b>Solution</b>	Use softer wheel
<b>Cause</b>	Not enough pressure
<b>Solution</b>	Increase pressure
<b>Cause</b>	Machine power too low
<b>Solution</b>	Use machine with more power
<b>Cause</b>	Loading & wheelglazing (non-ferrous)
<b>Solution</b>	Use Norton Alu wheels which counteract loading & wheelglazing

### EXCESSIVE WHEELWEAR

<b>Cause</b>	Wheel too soft
<b>Solution</b>	Use harder wheel
<b>Cause</b>	Too much pressure
<b>Solution</b>	Reduce pressure, let the wheel do the grinding
<b>Cause</b>	Decrease of peripheral speed
<b>Solution</b>	Use machine with more power, reduce pressure on the machine
<b>Cause</b>	Too low peripheral speed
<b>Solution</b>	Max. 80m/sec is optimum speed

### CRUMBLED WHEEL EDGE

<b>Cause</b>	Grinding angle too flat
<b>Solution</b>	Change angle to 30 - 40°
<b>Cause</b>	Workpiece is moving
<b>Solution</b>	Clamp the workpiece properly
<b>Cause</b>	Too much pressure
<b>Solution</b>	Reduce pressure, let the wheel do the grinding

### CRACKS ON THE BOTTOM OF THE WHEEL

<b>Cause</b>	Contact area too large
<b>Solution</b>	Reduce contact area
<b>Cause</b>	Too much pressure
<b>Solution</b>	Reduce pressure, let the wheel do the grinding

### UNBALANCE

<b>Cause</b>	Dirty flanges
<b>Solution</b>	Clean flanges
<b>Cause</b>	Wheel mounting insecure
<b>Solution</b>	Tighten flanges
<b>Cause</b>	Flanges with different diameter
<b>Solution</b>	Replace flanges

## SAFETY ADVICE

## DOs

✓	<b>DO</b> Always handle & store wheels carefully. Cutting-off wheels should be stacked horizontally & flat, preferably on a steel base plate. Depressed centre wheels should be placed on top of each other or stored in the original packaging
✓	<b>DO</b> Always visually inspect all wheels before mounting for possible damage in transit
✓	<b>DO</b> Always use a safety guard & ensure that it is correctly positioned & securely fitted. It should cover at least one half of the wheel & protect the operator in the unlikely event of a wheel breakage. <b>NON-REINFORCED CUTTING-OFF WHEELS SHOULD ONLY BE USED ON FIXED MACHINES &amp; SHOULD BE CORRECTLY GUARDED.</b>
✓	<b>DO</b> Always switch 'OFF' the power at supply source &/or remove the plug from the socket before changing the wheel
✓	<b>DO</b> Always ensure that the spindle speed of the machine does not exceed the operating speed marked on the wheel
✓	<b>DO</b> Always use the correct wheel mounting flanges & ensure that they are undamaged, clean & free from burrs
✓	<b>DO</b> SEE EN 12413
✓	<b>DO</b> Allow newly mounted wheels to run at operating speed, with the guard in place, for a reasonable time before cutting or grinding
✓	<b>DO</b> Always wear EYE PROTECTION
✓	<b>DO</b> Always wear appropriate safety clothing such as DUST MASK, GLOVES, EAR PROTECTION, OVERALLS & SAFETY SHOES
✓	<b>DO</b> Always have machine speeds checked regularly, especially after maintenance or repair. Machines fitted with speed control devices (Governors), must be properly maintained at all times
✓	<b>DO</b> Check tension of driving belts, where fitted, on a regular basis. Belts must be kept tight to ensure full power transmission.
✓	<b>DO</b> Always secure the workpiece firmly while it is being cut or ground
✓	<b>DO</b> Put portable machines in suitable cradles, when not being used, to avoid damage to the wheel
✓	<b>DO</b> Always use a portable machine in a comfortable position, where the workpiece is well balanced & the machine is well supported
✓	<b>DO</b> Grind at an angle above 30 degrees to the workpiece with a depressed centre grinding wheel
✓	<b>DO</b> Keep the working area around cutting & grinding operations clear. It is very dangerous if an operator trips & falls with an operating machine in his hands

## DON'Ts

X	<b>DON'T</b> Handle wheels roughly
X	<b>DON'T</b> Use non-reinforced cutting-off wheels on portable machines
X	<b>DON'T</b> Store wheels in a damp atmosphere or in extreme temperatures
X	<b>DON'T</b> Mount a damaged wheel
X	<b>DON'T</b> Tighten the mounting nut or locking flange excessively. To do so can distort the flanges
X	<b>DON'T</b> Force a wheel onto a machine spindle
X	<b>DON'T</b> Use mounting flanges which are incorrect, damaged, dirty or burred
X	<b>DON'T</b> Use blotters with depressed centre wheels less than or equal to 406mm (EN 12413)
X	<b>DON'T</b> Use a machine which is not in good mechanical condition
X	<b>DON'T</b> Use a machine without a wheel guard
X	<b>DON'T</b> Use wheels without proper ventilation or dust protection equipment
X	<b>DON'T</b> Apply side pressure to cutting-off wheels. You should not bend the wheel
X	<b>DON'T</b> Stop the wheel by applying pressure to the periphery or face. Always switch the machine off & allow the wheel to stop revolving
X	<b>DON'T</b> Allow the wheel to be trapped or pinched in the cut
X	<b>DON'T</b> Apply excessive pressure onto the wheel so that the driving motor slows down
X	<b>DON'T</b> Grind on the side of cutting-off wheels or depressed centre wheels below 4,0mm thickness
X	<b>DON'T</b> Drop or lower a portable machine by the cable or airline onto the floor. A wheel can be easily cracked, if it is put down hard, by the weight of the machine. This is a common cause of wheel breakage
X	<b>DON'T</b> Grind with a depressed centre grinding wheel at an angle below 30 degrees to the workpiece
X	<b>DON'T</b> Use a machine in a position where you do not have full control of the machine & you are not well balanced

## TECHNICAL INFORMATION

### WHAT IS A COATED ABRASIVE?

Modern coated abrasives are the product of an extremely technical process developed through many years of research and development. They remain, however, a product composed of three basic elements: a flexible or semi-rigid backing to which abrasive grains are bonded by an adhesive.



### ABRASIVE TYPES

The ideal abrasive grain offers maximum resistance to point wear, yet fractures before serious dulling occurs, thereby satisfying both stock removal and finishing requirements.

#### SYNTHETIC ABRASIVES

- Aluminium oxide is tough and well adapted to grinding high tensile materials, such as carbon steel, alloy steels, tough bronze and hard woods. Wherever toughness (ability to resist fracturing) is the main consideration, aluminium oxide out performs all other coated abrasive grains
- Silicon carbide is the hardest and sharpest of the minerals used in coated abrasives. Its hardness and sharpness make it the ideal abrasive for sanding non-ferrous metals (aluminium, brass, bronze, magnesium, titanium, etc.), rubber, glass, plastics, fibrous woods, enamel and other relatively soft materials. Silicon carbide is superior to any other abrasive in its ability to penetrate and cut faster under light pressure
- Zirconia alumina has a unique self-sharpening characteristic which gives it long life on rugged stock removal operations. Zirconia alumina is well suited for heavy grinding of metals and planing of wood, because the controlled fracturing of the grain continuously produces sharp, new abrading points
- Ceramic aluminium oxide is a long-lasting, tough, dense abrasive due to its micro structure. The extremely small micron size particles break off during grinding, producing multiple new cutting edges. As it stays sharp, especially when used in medium and high pressure operations, it cuts at a higher rate than other abrasives. Recommended for use on forged and carbon steels, high nickel and cobalt alloys

#### NATURAL ABRASIVES

- Emery is a natural composite of corundum and iron oxide. The particles are blocky in shape and tend to cut slowly, thereby producing a polishing action on the material being abraded. Used for general maintenance and polishing of metals and in very fine grits for highly technical polishing, such as preparing metallurgical specimens requiring very close tolerances. Emery products are black in colour

#### ABRASIVE GRAIN DISTRIBUTION

There are two types of abrasive grain coverage on the backing:

- Openly spaced distribution where between 30% and 60% of the backing is covered leaving large spaces between each abrasive grain. It is used in operations where the grinding swarf would otherwise 'load' or clog the surface, reducing cutting efficiency and shortening the coated abrasive life
- Closely packed grain distribution is where the grain completely covers the backing. The greater number of abrading points in a given area leads to faster stock removal. It is recommended where loading is not a problem and where smoother surface finishes are desired

## ABRASIVE GRAIN SIZE

After the crude abrasives have been crushed, the grains are separated (graded) into standard particle sizes using screens carefully made from silk threads of exact size and number per square inch to ensure extreme accuracy. The grit number (mesh number) appearing on the coated abrasive backing represents the number of openings per linear inch in the final screen. Grits 240 and finer, called flours, are graded by hydraulic separators, air classifiers and levigating tanks.

The European standard of grit sizes is the FEPA grading system. All FEPA grit sizes are preceded with the letter 'P', i.e. P180 etc.

In the USA a different grading system called CAMI is used. This chart provides a comparison between FEPA and CAMI grades and also shows average particle sizes in microns and inches.

Additionally, some products produced for the woodworking and floor sanding markets are identified with a 'grit symbol'.

Although use of this symbol is infrequent, the backing of these products contain both the mesh number and the grit symbol.

PARTICLE SIZE IN INCHES	PARTICLE SIZE IN MICRON	ALUMINIUM OXIDE, GARNET, SILICON CARBIDE, ZIRCONIA ALUMINA			EMERY		GLASS PAPER
		GRADING SYSTEMS		COMP. GRIT SYMBOL	POLISHING PAPER	CLOTH	
		CAMI	FEPA				
,0000118	0,3	-	-	-	-	-	-
,0000197	0,5	-	-	-	-	-	-
,0000394	1,0	-	-	-	-	-	-
,0000787	2,0	-	-	-	-	-	-
,000118	3,0	-	-	-	-	-	-
,000158	4,0	-	-	-	-	-	-
,000197	5,0	-	-	-	-	-	-
,000236	6,0	-	-	-	-	-	-
,00026	6,5	1200	-	-	-	-	-
,00035	9,0	-	-	-	-	-	-
,00036	9,2	1000	-	-	-	-	-
,00047	12,0	-	-	-	-	-	-
,00048	12,2	800	-	-	4/0	-	-
,00059	15,0	-	-	-	-	-	-
,00060	15,3	-	P1200	-	-	-	-
,00062	16,0	600	-	-	3/0	-	-
,00071	18,3	-	P1000	-	-	-	-
,00077	19,7	500	-	-	2/0	-	-
,00079	20,0	-	-	-	-	-	-
,00085	21,8	-	P800	-	-	-	-
,00092	23,6	400	-	10/0	0	-	-
,00098	25,0	-	-	-	-	-	-
,00100	27,75	-	P600	-	-	-	-
,00112	28,8	360	-	-	-	-	-
,00118	30,0	-	-	-	-	-	-
,00118	30,2	-	P500	-	-	-	-
,00137	35,0	-	P400	-	-	-	-
,00140	36,0	320	-	9/0	-	-	-
,001575	40,0	-	-	-	-	-	-
,00158	40,5	-	P360	-	-	-	-
,00172	44,0	280	-	8/0	1	-	-
,00177	45,0	-	-	-	-	-	-
,00180	46,2	-	P320	-	-	-	-
,00197	50,0	-	-	-	-	-	-
,00204	52,5	-	P280	-	-	-	-
,00209	53,5	240	-	7/0	-	-	-
,00217	55,0	-	-	-	-	-	-

## ABRASIVE GRAIN SIZE (CONTINUED)

PARTICLE SIZE IN INCHES	PARTICLE SIZE IN MICRON	ALUMINIUM OXIDE, GARNET, SILICON CARBIDE, ZIRCONIA ALUMINA			EMERY		GLASS PAPER
		GRADING SYSTEMS		COMP. GRIT SYMBOL	POLISHING PAPER	CLOTH	
		CAMI	FEPA				
,00228	58,5	-	P240	-	-	-	-
,0023	60,0	-	-	-	-	-	-
,00254	60,5	-	P220	-	-	-	-
,00257	66,0	220	-	6/0	2	-	-
,00304	78,0	180	P180	5/0	3	-	00
,00363	93,0	150	-	4/0	-	Fine	-
,00378	97,0	-	P150	-	-	-	0
,00452	116,0	120	-	3/0	-	-	-
,00495	127,0	-	P120	-	-	-	1
,00550	141,0	100	-	2/0	-	Medium	-
,00608	156,0	-	P100	-	-	-	1 1/2
,00749	192,0	80	-	0	-	-	-
,00768	197,0	-	P80	-	-	-	F2
,01014	260,0	-	P60	-	-	-	M2
,01045	268,0	60	-	1/2	-	Coarse	-
,01271	326,0	-	P50	-	-	-	S2
,01369	351,0	50	-	1	-	-	-
,01601	412,0	-	P40	-	-	-	2 1/2
,01699	428,0	40	-	-1 1/2	-	-	-
,02044	524,0	-	P36	-	-	-	36
,02087	535,0	36	-	2	-	Extra coarse	-
,02426	622,2	-	P30	-	-	-	-
,02488	638,0	30	-	2 1/2	-	-	-
,02789	715,0	24	-	3	-	-	-
,02886	740,0	-	P24	-	-	-	-
,03530	905,0	20	-	3 1/2	-	-	-
,03838	984,0	-	P20	-	-	-	-
,05148	1320,0	16	-	4	-	-	-
,05164	1324,0	-	P16	-	-	-	-
,06880	1764,0	-	P12	-	-	-	-
,07184	1842,0	12	-	4 1/2	-	-	-

## NARROW BELTS & WIDE BELTS

The results achieved when sanding with belts depends on several factors including:

- The machine condition & available horsepower
- The belt speed
- The grinding pressure
- The contact wheel
- The choice of the belt in relation to the shape of the part & material type
- The use of coolant (when machine & belt allows)

### BELT SPEED

The speed of the belt has a direct relationship with its cut rate, as well as the amount of heat generated, the surface finish achieved, and the stress on abrasive grain. Some abrasives like zirconia alumina and ceramic support much higher stresses because they have a better resistance to uncontrolled fracture. Some materials are more sensitive to heat generation. The chart below gives the recommended speed range according to material.

#### RECOMMENDED GRINDING BELT SPEED

Heat sensitive materials, plastics, etc.	5-15m/s	Stainless steel, high-speed steel & tool steel	20-30m/s
Sintered metals & carbides	8-15m/s	Grey cast iron & cast steel	30-40m/s
Titanium & similar alloys	8-15m/s	Carbon steel	30-40m/s
Glass, porcelain & special steel	8-15m/s	Brass, copper, zinc, bronze & tin	25-35m/s
Heat-resistant plastics	20-30m/s	Aluminium & light metal	20-35m/s
Wood	15-30m/s	Varnish	10-15m/s

### GRINDING PRESSURE

The amount of grinding pressure depends on:

- The force used
- The size of the contact area between the belt & the workpiece
- The backing on which the belt runs (generally a contact wheel)

Higher pressure increases the cut rate and the amount of heat generated increases the stress on the individual abrasive grain (a minimum stress is necessary to achieve a controlled fracture of the abrasive grain), and generally generates a rougher finish.

### CONTACT WHEELS

Many machines use contact wheels as a backing for belts. Contact wheels are generally covered with rubber, polyurethane, steel, rubber foam, felt, or compressed canvas, and are classified from soft to hard, with or without serrations. Using a different type of contact wheel has a direct effect on the end results.

- Harder contact wheels provide a higher cut rate, a rougher surface finish & generate a much more uniform surface than softer contact wheels. They are used with stiff belts for a faster cut
- Softer contact wheels provide lower cut rates, a better surface finish & follow the contours of the part. They are generally used for finishing contoured parts or for generating slightly rounded surfaces. They are much less hard wearing on the belt & its joint

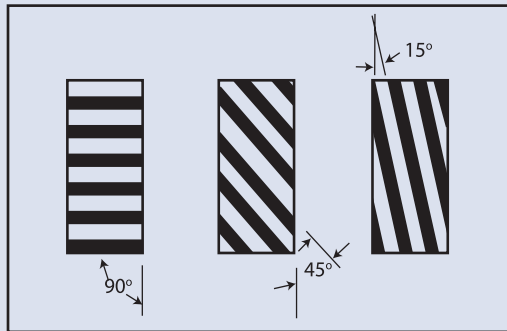
The design of the contact wheel will also have an effect on the contact area, which in turn affects grinding pressure.

- Contact wheels with a larger diameter act softer & should generally be used on larger surfaces
- Serrated contact wheels act harder but should generally be used on smaller surfaces

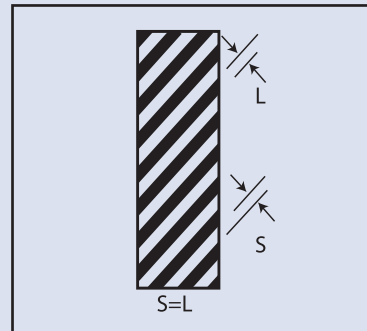
### CONTACT WHEEL TYPES

HARD ← → SOFT

Aggressiveness increases as angle increases



Contact surface decreases as lands decrease giving a more aggressive, harder wheel



### JOINT TYPES

Belts are made with a standard joint design best adapted to the product and its main application:



Butt joint with tape



Overlap joint with no topskive



Overlap joint with extra topskive

## NORaX® AN INNOVATIVE TECHNOLOGY

NORaX® is the innovative coated abrasive technology from Norton. The innovation lies in the abrasive layer: a multi-layer coating of abrasive is engineered into a 3D pattern. These patterns give a controlled contact surface between the abrasive and part that optimises belt performance.

NORaX® works like a grinding wheel on a cloth backing. As the belt wears, dull abrasive particles are removed from the belt surface to expose a new layer of sharp abrasives. This continuous replacement of dulled abrasives results in longer life, higher cut rates, and a more consistent surface finish throughout the belt life. Also, contributing to this higher performance, NORaX® is also covered with a surface powder grinding aid that increases cut and life while decreasing grinding temperature.



Conventional  
(Mono layer)



Aggregate  
(Multi-layer, non-uniform contact area)



Engineered abrasives  
(Multi-layer, controlled contact area)

For more information on NORaX® please contact your local Sales or Customer Service Representative.

## BACKING TYPES

Whether paper, cloth, vulcanised fibre, a combination or polyester film, the backing must be smooth enough for uniform adhesive coating, strong enough to withstand grinding pressures and flexible enough to conform to contours (if necessary). For reasons of economy, the least expensive backing compatible with the job requirements should be selected.

### PAPER

The standard paper weights used in coated abrasives are indicated by a letter code which appears immediately after the grit size on the finished product backing. Briefly stated, the lighter the backing, the greater the degree of flexibility; the heavier the backing, the greater the resistance to tearing.

#### A-weight (70gms)

Light and flexible, A-weight is used primarily for hand finishing operations both wet and dry. Grits 80 and finer.

#### C-weight (120gms)

Stronger and less flexible than A-weight. This backing is chosen for hand sanding, dry or wet, and for use on small portable power sanders. Intermediate through fine sanding. Grits 60 through 180.

#### D-weight (150gms)

Stronger and less flexible than C-weight. This backing is also chosen for hand sanding and for use on small portable power sanders. Coarse through intermediate sanding. Grits 36 through 80.

#### E-weight (220gms)

Stronger and less flexible than D-weight, this backing is used primarily on roll, belt and disc applications where high resistance to tearing is needed.

#### F-weight (300gms)

The strongest, least flexible paper backing utilised. Used for crankshaft lapping rolls, tannery industry belts and rolls, and NorZon® belts only.

**BACKING TYPES (CONTINUED)****CLOTH**

Cloth backings are more durable than paper, offer greater resistance to tearing, and tolerate continual bending and flexing during use. Norton use traditional woven cloth in the manufacture of their coated abrasives. The backing has construction and finishing characteristics designed to make it ideally suited to a specific application. The standard cloth weights used in coated abrasives are indicated by a letter code which appears immediately after the grit size on the finished product backing.

**J-weight**

The lightest and most flexible cloth backing, this backing is used where finish and uniformity of the surface are more important than stock removal. Ideal for finishing, blending and where flexibility and conformity are required, such as contour work or curved surfaces.

**X-weight**

Stronger and relatively stiff when compared to J-weight, this backing is used on products designed for coarse grit stock removal applications through fine grit finishing and polishing. Consistent productivity, relatively good finishes and long product life are characteristics of products made on X-weight backings.

**Y-weight**

Stronger and more resistant to longitudinal splitting than regular drills cloth, Y-weight backing is used on products designed for severe applications, such as narrow belt grinding of hand tools and wide belts sanding of lumber and particleboard dimensioning.

**FIBRE**

Fibre backings, made of multiple layers of impregnated paper, are very hard and strong, yet provide sufficient flexibility for the intended applications. 0.8mm thick fibre has the greatest strength of any backing used for coated abrasives. This backing is used on resin bonded fibre discs designed for heavy duty portable grinding applications.

**COMBINATION**

Combination backing, constructed by laminating light cloth and stiff E-weight paper, is used where resistance to tearing and breaking is a requirement. Primarily utilised on products designed for chipboard/MDF sanding.

**FILM**

Polyester is used as the backing media for Norton's range of precision graded microfinishing products. Film backings can be used wet or dry and have excellent resistance to chemical attack, while being tear resistant and durable.

**SPECIAL COATED SURFACE TREATMENT****NO-FIL® TREATMENT**

In order to provide even further resistance to loading, some Openkote paper products are given a special surface treatment of zinc stearate after the sizing operation. Such products are ideal for sanding between sealer coats on furniture, sanding after primer coats on automobiles, removing varnish from wood, and numerous other operations where conventional abrasive products fail prematurely due to loading. Norton's trademark for products utilising this treatment is No-Fil®



## CUTTING EFFICIENCY

Although general in nature, this chart can serve as a useful guide as to what effect a change in a single given factor in the specification will have on the cutting efficiency of coated abrasive products. Arrows have been used to signify the trend direction. The length of arrows has no significance. Some important machine and setup parameters have also been included since they do have significant impact on product performance.

	VARIABLE FACTOR	ROUGH HIGHER RA READING				SMOOTH SURFACE LOWER RA READING	
1.	Workpiece Feed Speed	Coarse					Fine
2.	C/A Belt speed (m/s)	New					Used
3.	Adhesive Product Condition	Resin	Resin/Glue				Glue
4.	Grit Sizes	Open-Coated					Close-Coated
5.	Product Durability	Single Linear					Double Triple
6.	Abrasive Mineral Type	Serrated					Smooth
7.	Adhesive Bond	Wider Groove Width Steel	Rubber				Wider Width Canvas
8.	Coating Method	Smaller					Larger
9.	Contact Wheel Configuration	Slower					Faster
10.	Composition	Dry	Water	Oil Solubles	Straight Oils		Grease
11.	Diameter	Zirconia Alumina	Ceramic	Aluminium Oxide	Silicon Carbide		Emery
12.	Pressure	Softer					Harder
13.	Grinding Aid	Oil	Soluble Oil		Water		Dry
14.	Workpiece Hardness	Softer					Harder

# SAFETY ADVICE

## SAFETY IN THE STORAGE & USE OF COATED ABRASIVES

### TRANSPORT & STORAGE

All coated abrasives should be handled carefully. Damage can be caused by mishandling, which should be avoided.

Coated abrasives should be stored in dry, frost free conditions. They should be kept away from heat sources, cold, damp walls, doors or windows and should not be in direct contact with the floor. Temperatures and humidity should be between 18°C and 22°C and 45%-65% relative humidity. Coated abrasives should not be exposed to direct sunlight. Products should be kept in their original packaging until immediately before use. Once unpacked, they should be stored in a way which avoids distortion.

### PERSONAL PROTECTION

Safety goggles, ear defenders, safety gloves, dust masks and, if conditions are severe, additional face protection. Leather aprons and safety shoes must be worn.



Mouth  
Protection



Wear  
Gloves



Eye  
Protection



Ear  
Protection



Read  
Instructions



Dry



Wet

### GENERAL PRECAUTIONS

Safety instructions provided by the machine manufacturers must be followed. Where fitted, all guards, covers and hoods must be in place on the machine during grinding, and should not be modified in any way. Abrasives should not be used near inflammable material or in an environment where there is a risk of explosion.

Sparks should be directed away from the face and body, if possible towards the floor. Dust extraction equipment must be used whenever it is available. The instructions for use given by the abrasive manufacturer must be followed e.g. 'Not to be used without a support', or 'Not to be used for wet grinding'. The workpiece must be firmly fixed before grinding starts. Check all abrasives visually before use and make certain that the product is suitable for the application. No modifications should be made to abrasive products after delivery.

When using a portable grinder always switch it off and allow the spindle to stop completely before putting the tool down. Wet grinding should only be carried out on machines designed for this purpose and with abrasives designated as suitable for this type of operation.

## SAFETY ADVICE

### DOs

#### TUNGSTEN CARBIDE BURRS

✓	<b>DO</b> Always operate the burr within the recommended speed range
✓	<b>DO</b> Select the appropriate shape, diameter & cut style for the application
✓	<b>DO</b> Ensure the appropriate grinder is used & that it is regularly maintained
✓	<b>DO</b> Fix the maximum length of the burr in the collet (recommended max 10mm overhang)
✓	<b>DO</b> Check that the burr is running true in the grinder before use
✓	<b>DO</b> Securely fix workpiece & hold the grinder firmly
✓	<b>DO</b> Use a smooth cutting action with constant movement in both directions. Use light pressure, letting the burr do the work
✓	<b>DO</b> For best finish, always end on a reverse stroke

### DON'Ts

#### TUNGSTEN CARBIDE BURRS

✗	<b>DON'T</b> Run burr above the Maximum Operating Speed
✗	<b>DON'T</b> Run burr too slowly (refer to recommended speed guide)
✗	<b>DON'T</b> Allow burr to be exposed to excessive mechanical or thermal shock
✗	<b>DON'T</b> Sink the burr to more than one-third of its periphery
✗	<b>DON'T</b> Jam the burr into grooves, crevices & cavities
✗	<b>DON'T</b> Allow burr to become too hot, causing braze to weaken (applies to burrs where head diameter is greater than shank diameter)
✗	<b>DON'T</b> Apply shock or excessive force to the product or let it overheat

# TECHNICAL INFORMATION

## WHAT IS A GRINDING WHEEL?

A grinding wheel is a precision tool with thousands of cutting points. It consists of abrasive grains held in a matrix of bond and separated by pores. The abrasive grains are the cutting points while the purpose of the bond is to hold the individual grains together. The pores (hollow spaces between adjacent abrasive grains and the bond) serve to provide clearance for coolant penetration and metal chips removed in the grinding process.

When the wheel is rotated at grinding speed and applied to the workpiece, the abrasive grains cut the material that is being ground, removing the material in small chips.

Under the action of the forces imposed during grinding the abrasive cutting points are worn flat, resulting in the points becoming blunt. This causes an increase in friction, and a build up of heat.

The increase in grinding forces causes either the abrasive to fracture, exposing new cutting edges, or fractures the bond bridges holding the abrasive grains. In the latter case fresh abrasive grains are exposed to cut the workpiece.

In normal vitrified grinding applications the wheel has to be dressed.

By varying the properties of the abrasive, the type of bond, the make-up of the wheel, it is possible to produce grinding wheels with a vast range of different grinding characteristics.

## ABRASIVES

Modern synthetic abrasives allow accurate control over the physical properties and form of the abrasive grain. This helps to ensure that grinding wheels can be manufactured with consistent cutting properties.

Norton offers a comprehensive selection of abrasive types to provide a wide range of specific grinding characteristics. This is necessary for maximum efficiency in the large variety of operations demanded by the industry today.

### Abrasive Grain Size

The grain or grit size is most important in determining a wheel's ability to achieve the required surface finish and remove stock. The size is designated by a number which increases as grain size decreases. For example 10 grit has a median size of about 2,0mm and 60 grit 0,25mm.

Standard sizes are used in all Norton wheels as specified in the European Standards laid down by FEPA.

An ideal grinding abrasive has the ability to stay sharp with minimum point dulling, and when dulling begins it fractures revealing new sharp cutting edges. Abrasive grains used in the manufacture of bonded abrasives come in three main categories.

## UNDERSTANDING THE SPECIFICATION

ABRASIVE			GRIT SIZE			GRADE			STRUCTURE		BOND
ALUMINIUM OXIDE	SILICON CARBIDE	CERAMIC ALUMINIUM OXIDE	COARSE	MEDIUM	FINE	SOFT	MEDIUM	HARD	CLOSED	OPEN	
A	37C	SGB	12	30	80	E	I	Q	5	10	VS
19A	39C	3SG	16	36	90	F	J	R		11	VXP
25A		5SG	20	46	100	G	K	S		12	VXPM
38A		1TGP	24	54	120	H	L	T			VTECH
40A				60			M				
57A				70			N				
86A							O				
IPA				60				EH XH		17 20	VTX
		ES5		60	80		J K	L			VX

## ABRASIVE TYPES

ABRASIVE TYPE	DESCRIPTION
A	This is a particularly tough form of aluminium oxide. Its toughness is due to the presence of 3% of titanium oxide in the abrasive. Fired at low temperature the abrasive retains its natural brown colour. Fired at high temperature further oxidation of the titanium oxide takes place which changes the normal brown colour to a grey-blue. Because of its toughness, regular brown alumina is suitable for grinding high tensile strength materials, specifically off-hand grinding (bench grinding wheels) & sharpening stones.
19A	A blend of A & 38A abrasives. This abrasive gives a grinding action that can be compared to the average of its components. It is supplied in some standard tool room wheels, used for surface, cylindrical, centreless & miscellaneous grinding on less heat sensitive steels.
38A	White fused aluminium oxide (99.8% pure). The most friable & cool cutting of the aluminium oxides. This abrasive is supplied in all types of standard range wheels ideal for use on hard & heat sensitive steels & alloys. It has traditionally been used for sharpening high-speed steel & cast alloy tools & cutters. 38A is used for cylindrical, surface & internal grinding of tools, dies & gauges.
57A	Semi-pure brown fused aluminium oxide (98% pure). The higher purity of 57A makes it a good general purpose abrasive. Its versatility enables it to be used for grinding steel parts in both soft & hard states, especially on large cylindrical & centreless operations. U Treatment (U57A) is a ceramic coating applied to this abrasive to increase its durability in resin bonded cutting-off wheels. It is used in the advanced range resinoid cut-off wheels.
86A	Pink aluminium oxide is a highly refined form of alumina containing a small proportion of chromium oxide. This addition makes 41A a little tougher than pure white, increasing the strength along the shear planes. This abrasive is available in a range of mounted points & wheels.
5GB	A blend of premium abrasives that include a medium concentration of ceramic Norton SG.
3SG	A blend of premium abrasives that include a high concentration of ceramic Norton SG.
5SG	A blend of premium abrasives that include a very high concentration of ceramic Norton SG.
37C	Crystolon silicon carbide abrasive. Supplied mainly in the resin bonds of advanced wheels used for grinding grey iron, non-ferrous metals & in vitrified bonds for grinding non-metallic materials, such as rubber & stone.
39C	Crystolon is the highest purity silicon carbide abrasive. It is ideal for grinding cemented carbide cutting tools, fired ceramics & glass, where it provides advanced performance.

## BOND TYPES

### VITRIFIED

Vitrified bonds are the most common precision grinding bond. Porosity and strength of the wheels made with this bond give high stock removal along with their rigidity helping to attain high precision. Not affected by water, acid, oils or ordinary temperature variations. The most common vitrified bonds are:

V	V is the original high temperature vitrified bond, usually used where tougher acting wheels are required
VS	VS is a very versatile, low temperature, high performance vitrified bond system used in almost all applications but predominately for tool room, centreless, cylindrical, & surface grinding
VTECH	Low temperature, very technical bond, used with conventional abrasives & recommended for high tech applications to maximise performance & dressing parameters
VX	VX bond provides improved corner/form holding for most applications – it is the first choice bond for our premium abrasives
VXP	Induced porosity VX bond suitable for large contact areas & surface grinding

## BOND TYPES

### ORGANIC

These bonds are used in two types of wheels. Firstly, wheels used on portable or fixed machines for the rapid removal of metal. Secondly, cutting-off wheels either un-reinforced or reinforced, for use on portable or fixed machines. The most common organic bonds are:

#### SNAGGING WHEELS & CUPS

<b>B &amp; B3</b>	Foundry wheels: multi-purpose bond that gives satisfactory results on most applications
<b>B28</b>	Foundry wheels: high level bond suitable for most technical applications requiring high powered machines

#### CUTTING-OFF WHEELS

<b>BF1</b>	Specific bond ensuring the best quality of cut in dry or wet conditions
<b>BF3</b>	New generation bond assuring the best wheel life in dry cutting operations; versatile & long wheel life. Ideal for heavy duty operations
<b>B24</b>	New generation bond used on silicon carbide cut-off wheels that gives the best performance & the ultimate cut quality on non-ferrous metals in wet conditions
<b>B25</b>	Standard multi-purpose bond that offers durability & freeness of cut in a wide variety of materials & applications. Can also be used in wet cutting on softer grades
<b>B26</b>	New generation bond used on aluminium oxide cut-off wheels that gives the best performance & the ultimate cut quality on ferrous metals in wet conditions
<b>B65</b>	Traditional bond gives good performance & long wheel life in dry cutting conditions

## WHEEL GRADES

The grade indicates the relative holding power of the bond, which holds abrasive grains in a wheel. This is represented in the specification by letters running through the alphabet from hardest to softest. The following rules should be followed with regard to grade:

#### USE SOFT GRADE

- For hard materials such as hard tool steels & carbides
- For large areas of contact
- For rapid stock removal

#### USE HARD GRADE

- For soft materials
- For small or narrow areas on contact
- For longer wheel life

### COMMON RANGE OF GRADES

E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
					CYLINDRICAL/CENTRELESS												
SURFACE GRINDING																	
					ID GRINDING												
				TOOL GRINDING													
					THREAD GRINDING												
	NON-REINFORCED ORGANIC																
											REINFORCED ORGANIC						

## AVAILABILITY SUMMARY

ABRASIVE TYPE	BOND	ABRASIVE COLOUR
IPA	VTX	White
SGB-3SG-5SG-ES5-1TGP	VX-VXP	Blue
A-19A	VS	Brown
86A	VS-VXP-VTECH	Ruby
38A	VS	White
37C	V-VP	Black
39C	V-VS	Green

## SELECTING THE RIGHT PRODUCT

There are nine main factors to be considered when selecting a grinding wheel for any application:

- The material to be ground – its type & hardness
- The stock to be removed
- The workpiece geometry & surface finishes required
- The grinding machine, the type of machine, the power available & its conditions
- Wheel speeds & feeds
- Grinding contact area
- Grinding fluid – whether the operation is wet or dry
- The severity of the grinding operation
- The dressing method

### MATERIAL TO BE GROUND

The type of material affects the selection of abrasive, grit size and grade. Alumina type abrasives are the most suitable for grinding high tensile materials such as steel and ferritic cast irons. The more friable types of alumina are preferred on harder steels and applications having large arcs of contact.

Low tensile strength materials and non-metallic materials are most efficiently ground or cut with silicon carbide abrasive.

The hardness of the material governs the amount of penetration that can be achieved by the abrasive. For this reason finer grit size wheels are required to grind hard materials and soft materials are best ground with medium to coarse grit size wheels.

For most efficient operation, the grade must be adjusted to suit the hardness of the material. As a general guide, the harder the material, the softer the grade of wheel required.

### STOCK TO BE REMOVED

This affects the choice of abrasive size and bond type.

High stock removal rates, as in fettling operations, require coarse grit wheels, typically 12 to 24 mesh. Fine finishes and tight limits on finished workpiece geometry require finer grit sizes.

Final surface finish is often achieved by 'spark out'. No further infeed is applied and the wheel is allowed to grind until the majority of the grinding sparks cease.

## SURFACE FINISH

The achievable surface finish in any grinding operation is highly dependent upon the grit size of the grinding wheel. The following chart shows the range of surface finishes achievable when using grinding wheels of different grit sizes on conventional precision grinding applications, together with the minimum form radius that can be ground using each grit size.

Other factors can affect the surface finish achieved. In particular:

- Production grinding applications, with higher stock removal ranges, will give surface finishes at the coarser end of the range
- Plunge grinding applications will often require the selection of a grit size one size finer than shown
- Dressing techniques & the type of material can also affect the surface finish achieved

### USAGE KEY

■ Highly recommended

### SURFACE FINISH & GRIT SIZE

SURFACE μ in CLA	FINISH μ m Ra	GRAIN SIZE							
		46	60	80	100	120	150	180	220
42	1,10	■							
32	0,80	■							
26	0,70	■							
21	0,50		■						
16	0,40		■						
14	0,35		■	■					
11	0,25		■	■					
8	0,20			■	■				
7	0,17			■	■	■			
6	0,14				■	■	■		
5	0,12					■	■	■	
4	0,10						■	■	■
3	0,08							■	■
2	0,05								■
MIN FORM RADIUS	METRIC (mm)	0,75	0,50	0,40	0,25	0,20	0,18	0,13	0,10
	IMP INS	,030	,020	,015	,010	,008	,007	,005	,004

### Achieving Improved Surface Finishes

By changing the wheel dressing technique, it is possible to achieve finer surface finishes than those shown. As well as reducing the dresser infeed per revolution of the grinding wheel, it is also possible to reduce the infeed and traverse rate when grinding, thus reducing the stock removal rate. Obviously this approach will have limited application in production grinding but it can be very useful in tool room work.

## THE GRINDING MACHINE

The type of machine can effectively define the grinding contact area and the ease with which grinding fluid can be applied to the grinding zone.

The power available on the machine governs the stock removal rate. The greater the power available, the harder the grade of wheel that is required for efficient operation.

Any deterioration in the condition of machine bearings and slideways will lead to vibration and, consequently, premature wheel breakdown. This can, in part, be overcome by using a harder grade wheel and/or a tougher abrasive but the only effective solution is to maintain the machine as recommended by the machine manufacturer.

## SPEEDS & FEEDS

The effect of speeds and feeds on grinding action and, hence, the selection of wheel, can best be summarised in the following table:

EFFECT ON GRINDING ACTION		
SPEED	INCREASED	DECREASED
Wheel speed*	Harder	Softer
Work speed	Softer	Harder
Traverse speed	Softer	Harder
Infeed rate	Softer	Harder

\*The maximum peripheral speed (m/s) specified for the wheel must never be exceeded

## GRINDING CONTACT AREA

The contact area effects the selection of wheel grade and structure. Large contact areas, as on segmental grinders, generally produce low grinding pressures and require soft grade, open structure wheels. Induced porosity wheels are most efficient for grinding very large contact areas. Conversely, small contact areas, as on cylindrical grinding machines, require harder grade and/or closer structure wheels.

The size of workpiece can also affect the grinding contact area. In general, the larger the workpiece, relative to the grinding wheel diameter, the larger the contact area, requiring softer grade wheels.

## GRINDING FLUID

Dry grinding with vitrified wheels require wheels one or two grades softer than when wet grinding.

## SEVERITY OF THE GRINDING OPERATION

This can affect the choice of abrasive type, grade and even bond type. Where the wheel is subjected to shock loads, as in fettling operations, a resinoid bond should be used. In general, the more severe the grinding operation, the harder the grade of wheel required and the tougher the abrasive that can be used. Severity of grinding operation can be due to heavy infeeds, high work speeds and traverse rates or intermittent grinding contact. The latter is usually due to workpiece geometry, resulting in a dressing action on the wheel.

## GRINDING WHEEL DRESSING & TRUING

Truing and dressing of grinding wheels are often considered to be the same thing, since they are frequently performed as one operation. Truing is performed to ensure concentricity and introduce any profile that may be required on the wheel face.

Dressing conditions the wheel surface to give the desired cutting action.

## SINGLE & MULTI-POINT DIAMONDS

Diamonds are the first choice where close tolerances, fine finishes, speed and flexibility are required. Since diamond dressing is primarily a machining operation rather than a crushing operation, the surface formed on the wheel is closer than that obtained from mechanical dressers. This results in a slower cutting wheel with better form holding characteristics and superior finish control.

By varying the depth of cut per pass made by the diamond and changing the traverse rate, different wheel surfaces, and hence different cutting actions, can be achieved.

The following are general recommendations for dressing with single-point diamonds.

	ROUGHING	FINISHING
Diamond infeed mm per pass	0,025mm	0,012-0,020mm
Diamond traverse rate mm/wheel rev.	0,18mm	0,10mm

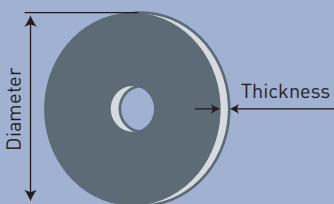
The diamond should always be applied at the centreline of the wheel with a 5°-15° drag angle.

## DIAMOND SIZE

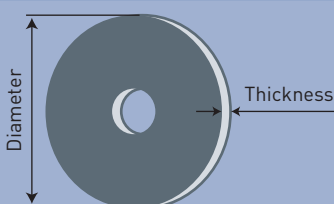
The size of diamond is important when selecting a dressing tool and several factors are relevant in this selection, e.g. large, coarse grit wheels require a larger diamond than smaller, fine grit wheels. If a fine finish is required, the use of a diamond which is too large can adversely affect the finish and cancel the effect of fine grit selection. The trend today is away from single-point dressers and towards multi-point dressers employing a matrix shape to suit the form required.

A useful formula for determining single-point & multi-point diamond size is:

**Wheel diameter (mm) x Wheel thickness (mm)**

SINGLE-POINT	MULTIPLY THE DIAMETER OF THE WHEEL BY ITS THICKNESS	
	Diameter x Thickness (mm)	Carat
	<6000	0,33 Carat
	6000-18000	0,50 Carat
	>18000	1,0 Carat

For best results, always use a coolant when dressing

MULTI-POINT	MULTIPLY THE DIAMETER OF THE WHEEL BY ITS THICKNESS	
	Diameter x Thickness (mm)	Carat
	<30000	1,3 Carat
	30000-60000	2,5 Carat
	>60000	5,0 Carat

For best results, always use a coolant when dressing

## COOLANT

Dressing with diamonds should always be carried out using a copious supply of coolant. The coolant should always be turned on fully before the diamond touches the wheel. The diamond life will deteriorate rapidly if it is allowed to become hot and then cooled rapidly as can be experienced with an intermittent coolant flow.

## ROTATION OF THE DRESSING TOOL

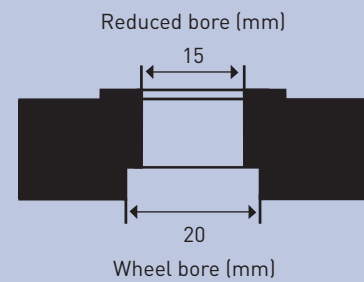
To ensure maximum diamond life, single-point and conical cluster diamond dressing tools should be systematically rotated after every four or five dressings to ensure that the keen edge generated from the drag angle is constantly presented to the wheel.

## REDUCTION RINGS

### REDUCTION RINGS

Plastic reduction rings may be used to adapt grinding wheels to fit on various spindle sizes. These rings reduce the bore hole size, allowing the wheel to be safely mounted on a spindle with a smaller diameter.

- Reduction rings should never come in contact with the flange
- Reduction rings should not be used on wheels of thicknesses less than 6mm, nor greater than 50mm
- Always use one reduction ring on each side of the wheel when the wheel is thick enough to allow correct seating
- Never use reduction rings to reduce the hole below the minimum specified in the FEPA safety code



WHEEL BORE (mm)	REDUCED TO (mm)	REDUCTION RING
50,8	35	07660704766
32	25	07660717540
32	20	07660717538
31,75	15,88	07660704757
31,75	12,7	07660704755
20	16	07660717530
20	15	07660717529
20	13	07660717527
20	12	07660717525
20	10	07660717524
16	6	00510008919

## MOUNTING

A wheel should only be mounted onto the machine for which it was intended. The speed of the spindle on which the wheel is mounted should not under any circumstances exceed the maximum RPM speed specified for the wheel when it is full size. The wheel should fit freely, but not loosely, onto the spindle or spigot diameter of the flange plates. Wheels, blotting paper washers and flanges should be free from foreign matter. Certain wheels have a positioning mark (Mount Down or Mount Up) marked on them. Care must be taken to ensure that this mark occupies the position stated by the manufacturer.

### REDUCING BUSHES

Where a removable bush is used as a means of reducing the bore of an abrasive wheel, care must be taken to ensure the bushes should not project beyond the side of the wheel and the wheel blotter. The clamping faces of the flange plates **MUST** clamp on the mounting washers attached to the wheel and not on any part of the reducing bush. Reducing bushes should never be used on wheels less than 6mm thick or on products with a back or web of less than 6mm. Never use plastic bushes on wheels used with portable grinding equipment.

### MOUNTING WASHERS

Blotters should be used with all grinding wheels unless there is a specific exemption. Blotters should be slightly larger in diameter than the mounting flanges and free from any scuffs, wrinkles or other damage.

### MOUNTING FLANGES

Mounting flanges are designed to clamp the wheel to the machine and transfer the driving forces from the machine spindle to the grinding wheel. They should be designed to take the driving forces away from the area around the grinding wheel bore and generally should be not less than one third of the grinding wheel diameter.

Flange surfaces should be flat, free from burrs, bumps, bruises and other damage. Flanges should be of equal diameter, have equal bearing surfaces and be properly recessed or undercut.

The rear flange must be positively driven by the machine spindle, being either keyed or shrunk onto the spindle.

Flanges must run true to the machine spindle.

Clamping nuts (centre nut locking) should only be tightened sufficiently to hold the wheel securely without slippage and must not be over-tightened. When flanges are clamped by a series of screws, they should be tightened in stages uniformly in a diametric sequence.

In most instances it is appropriate to tighten the nut or screws by hand with the correct tool (spanner or hexagonal socket key) until they stop turning. By adopting this technique it is very rare that the wheel would be under-tightened and impossible to over-tighten the wheel. Bolts for mounting wheels with inserted nuts should be long enough to engage an adequate length of thread, i.e. equal to the thread diameter, but must not protrude through the nut insert.

For recommended designs of flanges, refer to the FEPA Safety Guidelines.

### CAUTION

After mounting or re-mounting a grinding wheel on a machine, stand well clear, ensuring that there are no persons in line with the wheel and allow the wheel to run free for two minutes. A re-mounted wheel should always be treated as if it were a new wheel.

### TYPE 06 CUP WHEELS – FIXED MACHINES

The diameter of the flange and paper washer inside the cup must be smaller than the diameter of the cup recess to avoid any risk of radial pressure on the wheel. When used for work heavier than light tool and cutter grinding, the back flange may be larger than that inside the cup but the recess diameter of both flanges must be equal.

## MOUNTED POINTS & WHEELS

The spindle dimensions of the mounted point must be suitable for the collet being used, and the spindle overhang corresponding to the machine speed should be observed.

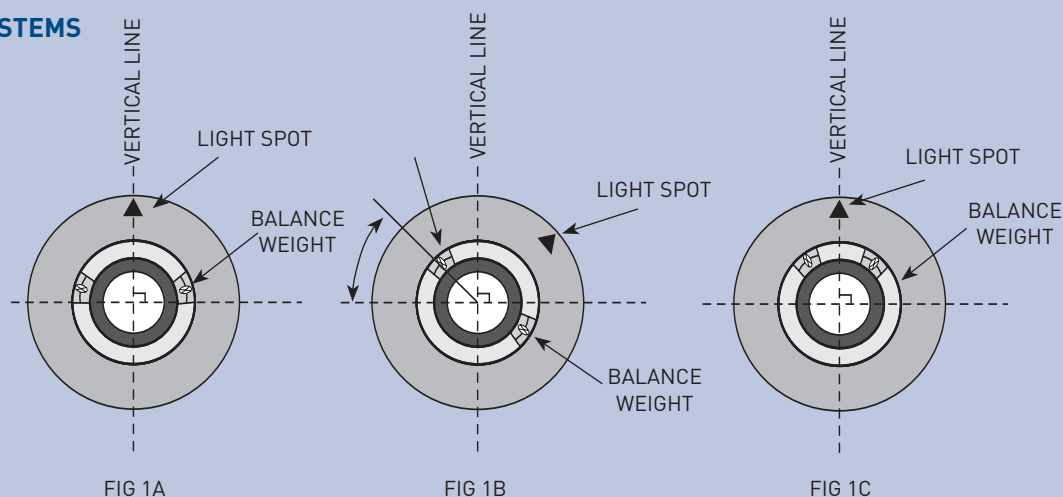
## TYPE 31 GRINDING SEGMENTS

Segments are held by special chucks with suitable provision for adjustment to compensate for segment wear. To prevent breakages segments should not protrude more than 1,5 times their thickness from the clamping chuck face, and should be mounted with markings uppermost.

## WHEEL BALANCE

Most Norton grinding wheels are balance corrected to a minimum of ISO Standards. Precision grinding machines usually provide methods of accurately balancing the complete wheel and flange assembly. Modern production machines are now supplied with automatic balancing systems, whereas, tool room and older production machines still have to be manually balanced, ensuring the best possible grinding performance from the wheel. The balancing procedure can be carried out either on a special balancing stand or in-situ on the machine. The machine manufacturer's instructions should be closely followed. There are many methods of manually balancing the wheel assembly, depending upon the number of balance weights in the wheel arbour. A typical 'two weight' balancing system technique is described below:

### TWO WEIGHT SYSTEMS



- Mount wheel between flange plates
- Remove balance weights from annular groove on mounting flange (can also be set diametrically opposite if preferred – ensuring the weights cancel each other out)
- Dress periphery of wheel until running in perfect truth
- Remove complete wheel assembly from the machine (after allowing sufficient time for the coolant to spin out) & fix assembly onto the balancing mandrel
- Place on balancing unit & allow to turn freely. When stationary, mark top centre (light spot) with chalk
- Re-position the balance weights so that the bottom side face of each weight, that is furthest from the light spot, forms a right angle i.e. 90°. See illustration 1A
- Turn wheel assembly so that one balance weight is approximately 45 degrees from the horizontal line & release the wheel. Note the direction in which wheel rotates, the weight may revolve upwards towards the vertical line. In this instance the weight should be moved down away from the light spot (always adjust the weights in the opposite direction of rotation) to begin bringing the wheel into balance. See illustration 1B
- Continue checking the weights, alternating between the left & right hand balance weights in turn. Repeat until the wheel remains stationary in all positions. Move the weights a maximum of 3mm at a time, reducing this amount as the wheel rotates slower. See illustration 1C
- Continue until assembly remains static in all positions. Lock balancing weights in position & remount assembly onto the machine spindle
- Important: – Ensure the balancing ways (knife edges or rollers) on the balancing stand are level in all directions. Care must be taken to initially find the true light spot of the wheel

# TROUBLESHOOTING

## SOLVING SURFACE FINISH PROBLEMS

Many problems associated with grinding relate to surface finish defects. The following chart describes some common surface finish problems, shows the probable causes and suggests remedies to cure the problem.

### REGULAR SPACED CHATTER MARKS

Immediately after dressing

<b>Cause</b>	Machine vibration
<b>Solution</b>	Check for wear in machine bearings

### REGULAR SPACED CHATTER MARKS

After a period of time

<b>Cause</b>	Wheel too hard
<b>Solution</b>	Use softer grade of wheel

### CHEQUERED PATTERN

<b>Cause</b>	Wheel out of balance
<b>Solution</b>	Balance wheel

### CHATTER MARKS

<b>Cause</b>	Wheel out of truth
<b>Solution</b>	Re-dress wheel

### IRREGULAR CHATTER MARKS

<b>Cause</b>	Wheel mounting insecure
<b>Solution</b>	Tighten wheel mounting
<b>Cause</b>	Workpiece centres loose
<b>Solution</b>	Adjust centres

### SPIRAL MARKS

<b>Cause</b>	Dressing techniques
<b>Solution</b>	Check diamond is sharp & secure
<b>Cause</b>	Dressing techniques
<b>Solution</b>	Check dress is parallel

### FINISH TOO COARSE

<b>Cause</b>	Grit size too coarse
<b>Solution</b>	Use fine, slow traverse dress
<b>Cause</b>	Wheel too soft
<b>Solution</b>	Decrease workspeed. Use harder grade wheel
<b>Cause</b>	Metal pick-up on wheel
<b>Solution</b>	Dress more frequently. Use more open, softer grade wheel

## SAFETY ADVICE

### SAFETY IN THE STORAGE & USE OF GRINDING WHEELS

Stringent safety standards are maintained throughout the manufacture of Norton Grinding Wheels. To reduce the risk of accidents further, the law requires that certain basic precautions are taken in the storage and use of abrasive wheels.

#### RECEIPT

On receipt, grinding wheels should be thoroughly examined to see if they show any signs of damage, such as chips, cracks or discolouration. Damaged wheels must not be used.

#### HANDLING

Any mishandling that results in the wheel being subjected to any shock loading can damage all grinding wheels. This can occur if the wheel is inadvertently dropped, knocked over or banged against any other object. This is equally true if the wheel is secured on a pallet, which has been dropped heavily from a forklift truck.

Any grinding wheel subjected to such mishandling should be carefully examined for signs of damage. If in any doubt – do not use.

#### STORAGE

Small wheels up to 80mm diameter, together with cones, plugs, mounted points and wheels may be stored in suitable bins, drawers or boxes. Type 02 cylinder wheels, type 06 straight cup wheels, type 12 dish wheels and type 13 saucer wheels should normally be stacked on flat sides with cushioning material between them. Thick rim and hard grade cylinder and straight cup wheels may be stored on their periphery as for plain wheels. Soft grade, straight cup wheels, and all type 11 taper cup wheels, should be stored base to base and rim to rim, to prevent chipping of edges and cracking of walls. Thin plain wheels, such as cutting-off wheels or saw sharpening wheels should be stacked on a flat surface of steel, or similar rigid material. Other plain or shaped wheels of appreciable thickness, are best supported on their periphery in racks. The racks should provide cushioned, two point, cradle support to prevent the wheels from rolling.

#### STORAGE CONDITIONS

During storage, grinding wheels must not be subjected to:

- Exposure to humidity, water or other liquids
- Freezing temperatures
- Any temperature low enough to cause the formation of condensation on the wheels when moving from storage to an area of high temperature

#### SHELF LIFE OF RESINOID & VITRIFIED BONDED WHEELS

The outer surfaces of certain organically bonded wheels may be affected by oxidation if they are stored for long periods. These types of wheel should not be stored for more than three years and proper stock control should ensure that older wheels are used first. In use, a three year old Resinoid product will act considerably softer than a brand new wheel (wheel will wear away more quickly).

The glass bonding system used in vitrified wheels is very inert and generally only attacked by certain acids. Cold temperatures can result in a vitrified wheel cracking if wheels are put away wet and are subjected to freezing temperatures. It must be remembered that the longer a product is in storage the chances of it becoming damaged increases. Provided vitrified wheels are stored correctly, thoroughly examined and mounted correctly they will last for many years.

## RING TEST

The ring test depends upon the damping characteristics of a cracked wheel to alter the sound emitted when it is lightly tapped. The test is applicable only to vitrified bonded wheels.

To perform the ring test; support the wheel gently with a finger through the bore section. Using a light non-metallic implement (a file handle is ideal), gently tap the wheel about 45° each side of the vertical centre line. Rotate the wheel 45° and repeat the test.

The sound and undamaged wheel will omit a clear tone. If cracked, there will be a dead dull sound – not a clear ring – and the wheel should NOT be used. The ring test should be carried out in a place where the ring can easily be heard.

## SAFE WORKING PRACTICES

### PERSONAL PROTECTION

Safety goggles, ear defenders, safety gloves, dust masks and, if conditions are severe, additional face protection. Leather aprons and safety shoes must be worn.



Mouth  
Protection



Wear  
Gloves



Eye  
Protection



Ear  
Protection



Read  
Instructions



Damaged Wheel  
– Do not use



Dry



Wet

### TRAINING OF OPERATORS

Grinding operators should be trained in the safe use of each machine they operate.

### SPEEDS

No abrasive wheel should be operated at a speed in excess of the maximum permissible speed marked on the wheel in RPM when the wheel is new and full size. It is permissible, however, to increase the spindle speed of the machine beyond the RPM stated on the wheel provided the increase is in proportion to the reduction in diameter and that the original peripheral speed is not exceeded (quoted on the wheel in metres/sec). In high production areas it is now normal for machines to have constant peripheral speed spindles. This is an electronic device that automatically increases the spindle speed of the machine as the wheel diameter wears down and prevents most of the reduction in wheel performance that is experienced when the wheel becomes smaller.

### COOLANTS

The strength of resin bonded grinding wheels can be reduced by coolants. The concentration and alkalinity of coolants should be regularly checked and a pH value of 8 should not be exceeded. Prolonged immersion of a stationary wheel in coolant can produce an out of balance condition. Coolant should be shut off before stopping a wet grinding wheel, and the wheel allowed to run free until all the coolant has been spun out.

### WORK RESTS

Work rests should be kept adjusted as close as possible (gap between wheel and work rest should not exceed 3mm) to the wheel and maintained in good condition.

## TRUING & DRESSING

Re-dressing of wheels that have become malformed and out of truth in off-hand operations must only be performed by a competent person.

If an out of balance condition, due to the wheel wearing excessively out-of-round, cannot be corrected by truing, the wheel should be removed from the machine.

Wheels should be dressed regularly to avoid loading.

## SIDE GRINDING

Side grinding should only be performed with wheels designed for this purpose (straight cups etc.).

Grinding on the flat sides of wheels designed for peripheral grinding may be dangerous and cause a wheel breakage. This does not preclude their use for certain precision applications such as shoulder and form grinding, where it is recognised that a limited amount of side grinding is performed; however, in these operations the operator has control of the pressure through the hand wheels of the machine whereas with bench grinding and off-hand machines the pressure is uncontrolled. Extreme caution should be exercised not to use excessive pressure.

As a general guide, do not use a straight wheel which has a thickness of less than 10% of the wheel diameter for side grinding.

## ORGANIC CUTTING-OFF WHEELS

'Non-reinforced' cutting-off wheels should never be used:

- On a portable grinding machine
- On any machine where the workpiece is fed into the wheel by hand

Cutting-off wheels should only be mounted on machines designed for their use.

Cutting-off wheels should be inspected for warping before use. Warped wheels should not be used.

When grinding, twisting or the exertion of any pressure on the side of the wheel should be avoided.

Workpieces should be rigidly supported and firmly clamped wherever possible.

## STOPPING WHEELS

Wheels should not be brought to rest by applying pressure to the periphery or face of the wheel.

# TECHNICAL INFORMATION

## DESIGNATION OF GRIT SIZES

FEPA MICRONS	US MESH	JIS	DWMI	DIAMOND	CBN	Ra (µm) SURFACE FINISH CARBIDE	RA (µm) SURFACE FINISH STEEL PLUNGE	RA (µm) SURFACE FINISH STEEL OSCILLATING
1181	16/18							
1182	16/20			16				
1001	18/20							
851	20/25							
852	20/30	20		24	24			
711	25/30							
601	30/35							
602	30/40	30		36	36			
501	35/40							
426	40/45							
427	40/50	40		46	46			
356	45/50							
301	50/60	50		50	50			
	50/80							
251	60/70			60	60			
252	60/80	60	60	80c	80c	0,6-0,9		
213	70/80			80	80			
181	80/100	80	80	100	100	0,4-0,7	1,0-1,1	0,9-1,1
	80/120			110c				
151	100/120	100	100	110	120		0,9-1,0	0,8-0,9
126	120/140	120	120	120	150	0,4-0,5	0,8-0,9	0,6-0,8
107	140/170	140	150	150	180		0,6-0,8	0,5-0,6
91	170/200	170	180	180	220	0,3-0,4	0,5-0,6	0,4-0,5
76	200/230	200	220	220	230			
64	230/270	230	240	240	240	0,2-0,3	0,4-0,5	
54	270/325	270	320	320	320			
46	325/400	325	400	400	400	0,1-0,2		
	400/500	400		500	500			
M63	40/60							
M40	30/40	500		500				
M25	20/30	700						
	15/25	800						
M16	*10/20*	1000		600				
	*8/16*	1500						
M10	*6/12*	2000		800				
M6.3	*4/8*	2500						
	*3/6*	4000						
M4	*2/4*	5000						
M1	*0/2*	15000						

## CONCENTRATION

The concentration is defined by a standard and indicates the weight of abrasive (in carats) contained in 1cm<sup>3</sup> of abrasive strip – 1 carat = 0,2 grams.

CONCENTRATION*		NUMBER OF CARATS/cm <sup>3</sup>	ABRASIVE WEIGHT PER cm <sup>3</sup>
DIAMOND ABRASIVE	CBN ABRASIVE*		
100	= W	4,4	= 0,88g/cm <sup>3</sup>
75	= T	3,3	= 0,66g/cm <sup>3</sup>
50	= Q	2,2	= 0,44g/cm <sup>3</sup>

\* Other concentrations available upon request

## SELECTION OF CONCENTRATION

The choice of concentration depends on the machining parameters:

HIGH CONCENTRATION		MEDIUM OR LOW CONCENTRATION		
Roughing operations		Finishing operation		
Powerful machine		Low power machine		
Small contact area		Large contact area		
Use of coolant		No coolant		
Retention of profile or sharp edges of wheel		Cutting without temperature rise		
OPERATION	INTERNAL GRINDING	EXTERNAL GRINDING	SURFACE GRINDING	SHARPENING
Diamond	100	75	50	50/75
CBN	W	T	Q	Q/T

## COOLANT

Generally speaking, working with coolant is preferable to working without coolant because the coolant reduces friction and dissipates heat generated by machining.

However, many sharpening operations are performed without coolant under good conditions and with appropriate bonds.

Choice of coolant:

- DIAMOND wheel = pure water + 1,5% rust inhibitor or soluble oil
- CBN wheels = pure oil or water, always with 5 to 10 soluble oil
- For CBN wheels, changing from soluble oil to pure oil increases the service life of the wheel

## MOUNTING, TRUING & DRESSING

To achieve the best results using Norton Diamond and CBN products, the following steps for mounting, truing and dressing should be practised:

### MOUNTING – PUTTING WHEEL ON MACHINE SPINDLE

- Examine wheel flanges & spindle carefully
- Be sure flanges' surfaces are clean & free of damage
- Ensure that the mounting flanges are flat & of equal diameter, especially on wheels with rigid centres, such as vitrified bond wheels
- Inspect machine spindle for excessive runout
  - TIR (Total Indicated Runout) should be no greater than 5 microns
- 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 25 microns
- Tighten flange securely & 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 & abrasive lost in retrueing

### DRESSING - OPENING THE FACE OF A TRUED WHEEL

The core material (the part of the wheel that holds and supports the abrasive-bearing section) should never contact the workpiece during grinding; rubbing will generate excessive heat. As the abrasive section of a cup wheel wears, the core material may become exposed - necessitating dressing.

- Use a single-point carbide or steel tool to dress an exposed resaloy core
- Clamp the tool in a vice
- Direct the cutting edge accurately to leave a 1,5mm of abrasive section exposed

## DRESSING THE ABRASIVE TO EXPOSE THE GRITS

**Purpose: to expose the grinding stone face to give a better cut**

After each truing operation, dressing is necessary to give a more precise cut to the wheel. This operation consists of highlighting the grits by eliminating part of the bond and is generally carried out using vitrified bonded abrasive sticks.

Selection of the stick specification depends mainly on the nature of the bond of the super abrasive grinding stone and its grit size.

### STICKS RECOMMENDED

BOND	GRIT SIZE	TRUING STICKS
Resin	126 & bigger	38A 150 HVBE
	107 - grit - 64	38A 220 HVBE
	54 & finer	38A 320 HVBE

## TROUBLESHOOTING

### USE RIGID WORK SUPPORT

- All workpieces should be supported firmly during the grinding process. Any amount of vibration will cause wheel wear & produce chatter or wave marks on the ground surface
- On work ground between centres, centreholds should be properly prepared
- Minimise work overhang
- If the ground work is supported by a work finger, ensure the finger is strong enough to provide vibration-free support

### AVOID EXCESSIVE FEEDS

- Excessive feeds will result in premature wheel wear. Excessive feed rates are characterised by:
  - A hard grinding sound
  - Chatter
  - Burn
  - High wheel wear rate
  - Vibration

### 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
	Wheel speed too high	Slower 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
	Wheel too hard	Check specification

## 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 &/or crossfeed
	Wheel speed too high	Slower wheel speed
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 too hard	Check specification
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
	Grit size too fine	Check specification
Slow cutting	Low feeds & speeds	Increase feed rate; increase wheel speed (observe maximum wheel speed)
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

## TECHNICAL INFORMATION

### OPERATING SPEEDS

#### MAXIMUM OPERATING SPEED

DIAMETER (mm)	MAX M/S	MAX RPM
100	80	15300
115	80	13300
125	80	12250
150	80	10200
180	80	8500
200	80	7650
230	80	6650
250	80	6100
300	100	6400
350	100	5500
400	100	4800
450	100	4250

**Never exceed the Maximum Operating Speeds:** ■ Hand held blades  $\varnothing < 230\text{mm}$ : 80m/s ■ Hand held blades  $\varnothing > 230\text{mm}$ : 100m/s  
■ Others: 63m/s

### PERSONAL PROTECTION

Safety goggles, ear defenders, safety gloves, dust masks and, if conditions are severe, additional face protection.  
Leather aprons and safety shoes must be worn.



Mouth  
Protection



Wear  
Gloves



Eye  
Protection



Ear  
Protection



Read  
Instructions



Not for  
Side Grinding



Dry  
Cutting



Wet  
Cutting

# TROUBLESHOOTING

## DIAMOND BLADE DOES NOT CUT

<b>Cause</b>	The segments are too hard for the material
<b>Solution</b>	Check if the blade is suitable for the material
<b>Cause</b>	The segments have become blunt
<b>Solution</b>	Sharpen the segments by cutting an abrasive material (e.g. sandstone)
<b>Cause</b>	Insufficient machine power
<b>Solution</b>	Check the voltage, machine power & filters

## EXCESSIVE WEAR

<b>Cause</b>	The segment is too soft for the material (e.g. if a blade for hard material is used to cut abrasive material)
<b>Solution</b>	Check if the diamond blade is suitable for the material

## CRACKING OF STEEL CENTRE

<b>Cause</b>	The segments are too hard for the material
<b>Solution</b>	Check if the blade is suitable for the material
<b>Cause</b>	Excessive cutting pressure, overheating, material slippage, twisting or jamming in the cut
<b>Solution</b>	Leave the blade to do the work, do not exert too much pressure & allow the blade to cool regularly by leaving it to rotate away from the workpiece for a few seconds

## LOOSENING OR CRACKING OF SEGMENTS

<b>Cause</b>	The segments are too hard for the material. This results in the diamond blade bouncing in the cut resulting in cracking segments
<b>Solution</b>	Check if the diamond blade is suitable for the material

## SCORCHING OF SEGMENTS

<b>Cause</b>	Excessive cutting pressure causing overheating. This is easily recognisable from the blue colouring where the segments & the steel core are welded together
<b>Solution</b>	Allow the diamond blade to cool regularly by rotating the blade away from the workpiece for a few seconds
<b>Cause</b>	The segments are too hard for the material
<b>Solution</b>	Check if the diamond blade is suitable for the material. Alternatively use less cutting pressure & let the blade do the work

## UNDERCUTTING

<b>Cause</b>	Undercutting occurs when the steel core wears faster than the segment, i.e. where the segment & steel core meet. This is usually caused by materials that are highly abrasive. The cutting debris is not removed sufficiently & the steel core is affected. Undercutting is certain to occur if a diamond blade for hard materials is used to cut abrasive materials
<b>Solution</b>	Use a diamond blade suitable for the specific material

**SAFETY ADVICE****SAFETY DOs**

For your safety you should ensure that you are fully aware of how to safely use diamond blades

✓	<b>DO</b> Read the safety instructions provided by the abrasives & equipment supplier
✓	<b>DO</b> Store abrasives in dry, frost-free conditions avoiding wide variations in temperature
✓	<b>DO</b> Ensure that the product is suitable for its purpose
✓	<b>DO</b> Handle, store & transport products with care
✓	<b>DO</b> Disconnect the power to the machine before fitting the product
✓	<b>DO</b> Examine all products before mounting & periodically during blade use for possible defects or damage (core flatness, fatigue cracks, undercutting, arbor hole damage...)
✓	<b>DO</b> Check that correct mounting devices are used & that they are clean, undistorted and free from burrs
✓	<b>DO</b> Ensure that work rests are properly adjusted & secure
✓	<b>DO</b> Always use a correctly designed & adjusted guard (on the blade and belts)
✓	<b>DO</b> Ensure that the workpiece is secure
✓	<b>DO</b> Wear appropriate personal protective equipment at all times
✓	<b>DO</b> Avoid clogging & uneven wear to ensure that the product is working efficiently
✓	<b>DO</b> Ensure accordance between product direction arrow / machine rotation
✓	<b>DO</b> Ensure that all machines using abrasives meet the requirements of the current European machinery directives-CE
✓	<b>DO</b> Be aware of the hazards likely during the use of abrasives & observe the recommended precautions to be taken: <ul style="list-style-type: none"> <li>- Bodily contact with the abrasive product at operating speed</li> <li>- Injury resulting from product breakage during use</li> <li>- Grinding debris, sparks, fumes &amp; dust generated by the grinding process</li> <li>- Noise</li> <li>- Vibration</li> </ul>

## SAFETY DON'Ts

For your safety you should ensure that you are fully aware of how to safely use diamond blades



**DON'T** Allow untrained people to use abrasives



**DON'T** Use a product that is damaged or one which has been dropped



**DON'T** Use a product if it cannot be properly identified



**DON'T** Use a machine that is not in good working order or one with defective parts



**DON'T** Force the abrasive onto the mounting device or modify the size of the mounting hole



**DON'T** Exceed the maximum operating speed marked on the product



**DON'T** Apply shock or excessive force to the product or let it overheat



**DON'T** Use mounting flanges which are not clean & flat



**DON'T** Tighten the mounting device excessively



**DON'T** Start the machine until the guard is in place & fastened securely



**DON'T** Continue to use a product if vibration occurs. True or replace it



**DON'T** Grind on the part of the product which is not designed for the operation



**DON'T** Start the machine with the workpiece in contact with the abrasive product



**DON'T** Grind material for which the product is not designed



**DON'T** Stop the abrasive by applying pressure to its surface, let it stop naturally



**DON'T** Exceed permissible rotation speeds: refer to values engraved on product



**DON'T** Use blades with missing segments or core cracks



**DON'T** Use dry products marked for wet use



**DON'T** Wear loose clothing, ties & jewellery

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