





- 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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# THE WORLD'S PREMIUM ABRASIVE BRAND



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 abrasives 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 alumium 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 Noderstedt, 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.



# THE WORLD'S PREMIUM ABRASIVE BRAND

### **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<sup>®</sup>.

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.

### THE WORLD'S PREMIUM ABRASIVE BRAND

### **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.

### THE WORLD'S PREMIUM ABRASIVE BRAND

#### **NEW ABRASIVE GRAINS**



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.

### ES<sub>5</sub>

ES5 is a high performance  $SG^{\otimes}$  ceramic aluminium oxide abrasive that is used primarily on small diameter Bonded Abrasive wheels for internal (ID) grinding. It's 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.

### POCTOPUS

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

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.



"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.





# 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

Market Application Workpiece Material Coolant Dresser Norton Wheel Shape Dimension (mm) Benefit

Vitrified Aerospace Creep Feed grinding Turbine blade for power generator Inconel 738 Water soluble oil Diamond roll Altos TGX80D13VCF5 508x40x127

Vitrified Gearing industry Gear grinding Gear Cemented treated steel **Emulsion 2%** Diamond roll Vortex<sup>™</sup> IPA60ME29VTX .01F 450x20x127 Increase wheel life by a factor of 3,4 Reduce the cost per part by 3%

Organic Steel mill Large cut-off operation Bars Stainless steel n/a n/a Toros ZUA20XBF2

Improve wheel life time by 30%

1250x13,5x200

#### **CASE STUDY EXAMPLE 2** SUPER ABRASIVES

Market Application Workpiece Material Coolant **Norton Wheel** Shape Dimension (mm)

Tool room Peripherical grinding of inserts Inserts Tungsten carbide Emulsion 2% Norton SD54R100B77 12A2 350x23x300 W=15 X=9 Benefit | Productivity increased by 25%

General engineering OD grinding Drill bits Polycristalline Diamond Emulsion 2% Norton DEH126R125B56 3A1 508x30x203,2 X=6,35 Decrease grinding cost by 20%

General engineering Surface grinding Tool HSS Emulsion 2% Norton CB126QBB 1A1 350x30x127x=4

Reduction on cutting time by 15%

### CASE STUDY EXAMPLE 3 COATED ABRASIVES

Market Application Workpiece Material **Norton Product** Shape Dimension (mm) **Benefit** 

Aerospace Gate grinding Turbine blades Inconel R 980 Belts 150x3500 Belt life +200% Chipboard Sanding Boards MDF S 482 Sectional belts 2620x3820

Higher quality in surface finish reduces downtime (fewer belt changes)

Automotive industry Metal blending Body of a car Metal NORaX® U264 X200 Norgrip® discs

Norgrip® disc 150x0

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.















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

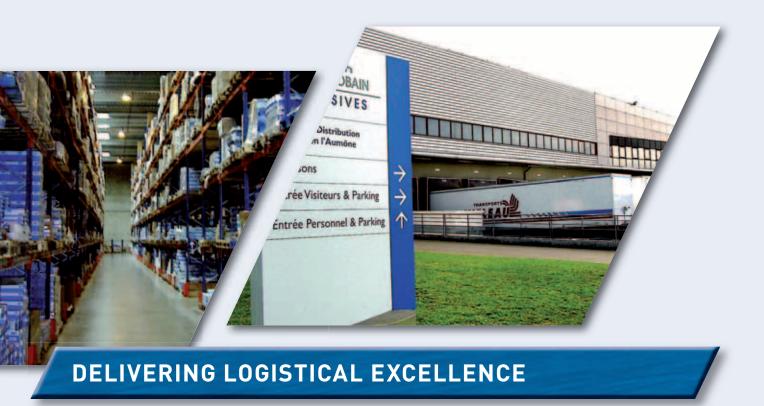
### REDUCTION OF NATURAL RESOURCES CONSUMPTION

- 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.

### THE WORLD'S PREMIUM ABRASIVE BRAND



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  $10,000 \, \text{m}^2$  used to stock more than  $8,000 \, \text{product}$  lines in one location. We have more products at our fingertips than any other abrasives manufacturer in the world. Shipping over  $4,000 \, \text{product}$  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.

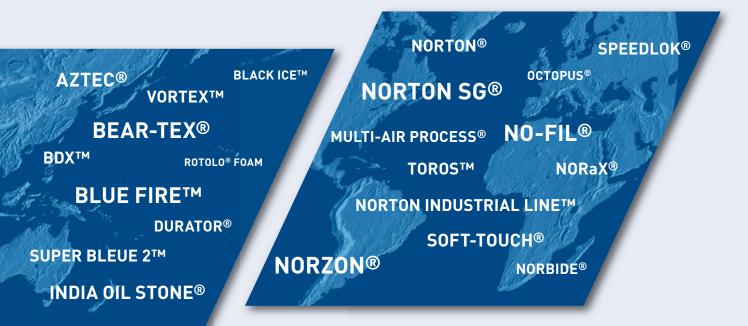
Through the latter part of the 19th Century Norton expanded its abrasives range and reached customers throughout the U.S. and Canada. In 1909, Norton built its first European plant in Germany. This was followed by plants in France (1920), UK (1930), and Italy (1935). In the 1930s Norton strengthened 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.

### THE WORLD'S PREMIUM ABRASIVE BRAND



### **PATENTS & TRADEMARKS**

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

**AZTEC® NORTON®** 

**BDX**<sup>TM</sup> NORTON INDUSTRIAL LINE™

**NORTON SG® BEAR-TEX®** 

**BLACK ICETM NORZON®** 

BLUE FIRE™ **OCTOPUS®** 

**DURATOR®** ROTOLO® FOAM

**INDIA OIL STONE® SOFT-TOUCH®** 

**MULTI-AIR PROCESS® SPEEDLOK®** 

NO-FIL® **SUPER BLEUE 2™** 

**NORaX® TOROS<sup>TM</sup>** 

**NORBIDE® VORTEXTM** 



NOTES

# A CORPORATE PERSPECTIVE

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 BUSINESS SECTORS**

### **HIGH-PERFORMANCE MATERIALS**



Abrasives	No.1	worldwide
Ceramics & Plastics	No.1	worldwide for thermal & mechanical applications
Reinforcement	No.1	worldwide

### **FLAT GLASS**



Flat Glass No.1 in Europe No.3 worldwide

### **PACKAGING**



Packaging No.1 in Europe No.2 worldwide

### **CONSTRUCTION PRODUCTS**



Exterior Products	No.1	in US for sidings	No.3	in US for roofing products
Industrial Mortars	No.1	worldwide in w & glues for tilir	all coatings ng	
Pipe	No.1	worldwide in cast iron pipe		
Gypsum	No.1	worldwide		
Insulation	No.1	worldwide		

### **BUILDING DISTRIBUTION**



Building Distribution No.1 worldwide in tiles distribution

No.1

in Europe in building materials distribution & in industrial carpentry

### **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



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		









### **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 <sup>™</sup> Grinding wheels	270	BearTex® metal finishing convolute wheels	252
		Film rolls & discs	162
		NORaX <sup>®</sup> Narrow belts	172
		R309 Narrow belts & rolls	152,176





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 <sup>®</sup> 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			
		Norton multi-purpose cut-off wheels	46









### 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
Candian aantaana	Abrasives sanding sponges	Soft & versatile manual finishing	148
Sanding contours	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 <sup>™</sup> discs & cut sheets	117/137	Multi-Air <sup>®</sup> discs	110
R309 Narrow belts & rolls	152/176	A275 Norgrip® discs and rolls	118,151





Norton leads the development of 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.

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>	Anti-clogging for a perfect finish	132,134
	& Double-sided discs		

### **NEW PRODUCTS**

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









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
Gate removat	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 <sup>™</sup> non reinforced Cut-off wheels	326
Tungsten carbide burrs	208		

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



# **ABRASIVE MARKET SEGMENTS**



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







# **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



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
Educaciadica	Narrow belts	High resistant & long life	172
Edge grinding	Cross belts	High quality & resistant	172
Edge finishing	Cork belts	High finishing quality	175
Superfinishing operation	Flexible wheels	Extreme surface finish	МТО
Removal coating after cutting	Convolute wheels	High performance	252

### **NEW PRODUCTS**

# COATED ABRASIVES NORaX® U466 & U366 172







NOTES
-

## 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.



The core lines of Norton. These products provide high performance solutions with high levels of productivity delivering low abrasive costs.

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.

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.

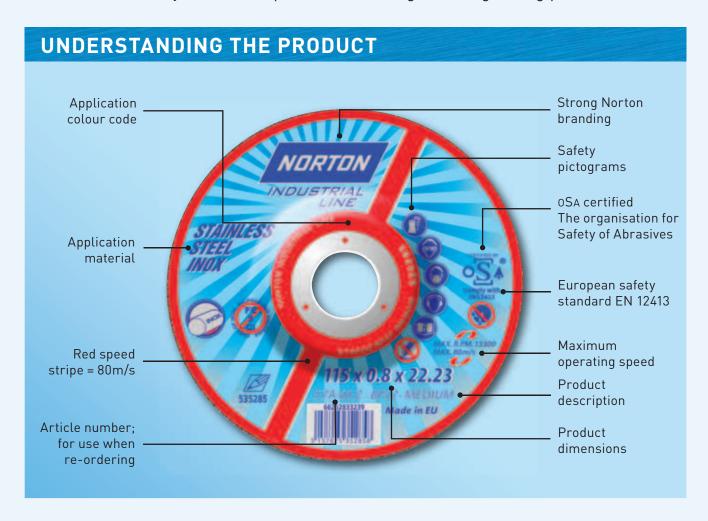
For prices and terms of sale please refer to the price list.

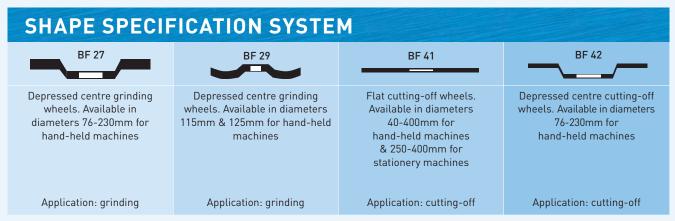


# Cutting-Off & Grinding Wheels

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.





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.

INNOVATION	With unparalleled abrasive technology, Norton provides optimum solutions with innovative products dedicated to industrial applications	BETTER	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
BEST	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	G000	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	BEST	BETTER	GOOD
METAL			Actors	
X O Nuox			NORT	
METAL INOX	No.		NONT	
ALU METAL INOX STONE C.TILES PVC	NOR			
ALU			NORTE	
STONE			NORTH	
RAIL			E NORTH	
CAST IRON METAL INOX	A STATE OF THE STA	Non		

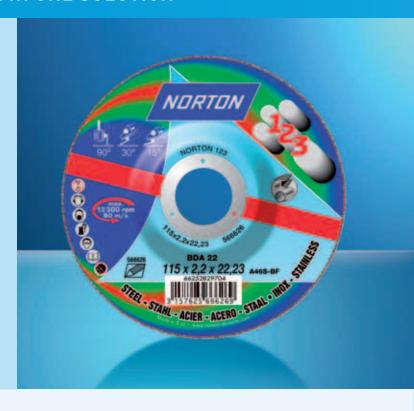
# NORTON 1-2-3 THE ALL IN ONE SOLUTION

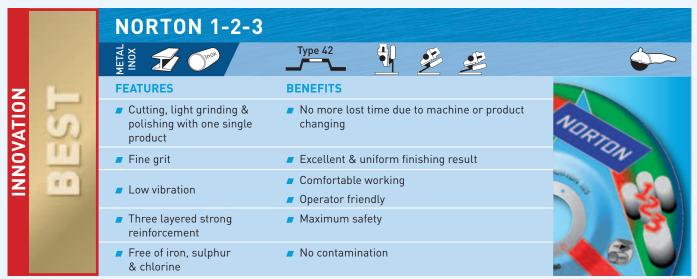
1 Cutting, 2 Grinding, 3 Polishing

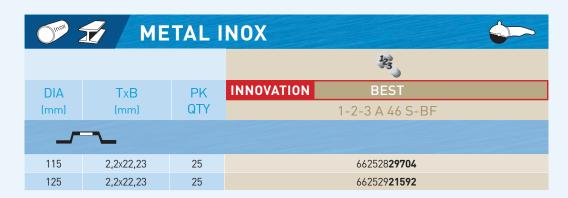
Cutting, light grinding and polishing, all with one single product?
The new Norton 1-2-3 makes it possible!
No more lost time due to machine or product changing.

#### **APPLICATIONS & MARKETS**

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













# CUTTING-OFF WHEELS FOR ANGLE GRINDERS

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

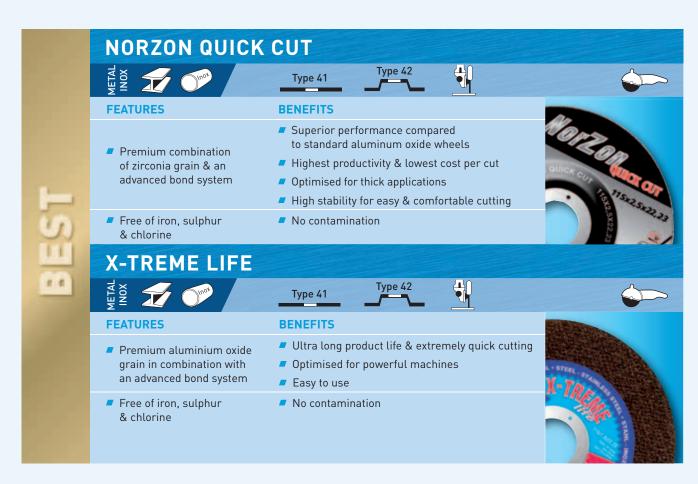
- Aerospace
- Automotive
- Construction
- Fabrication
- Foundry
- Rail industry
- Ship-building

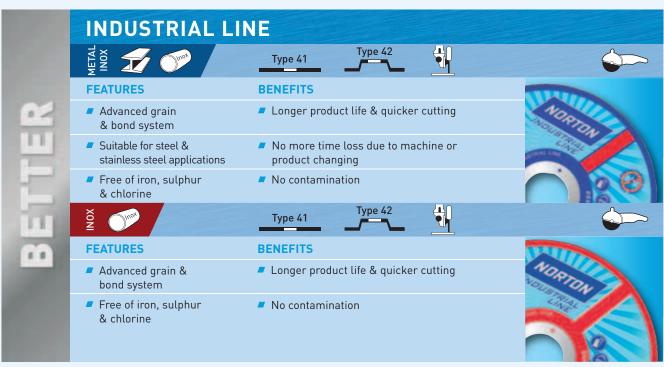


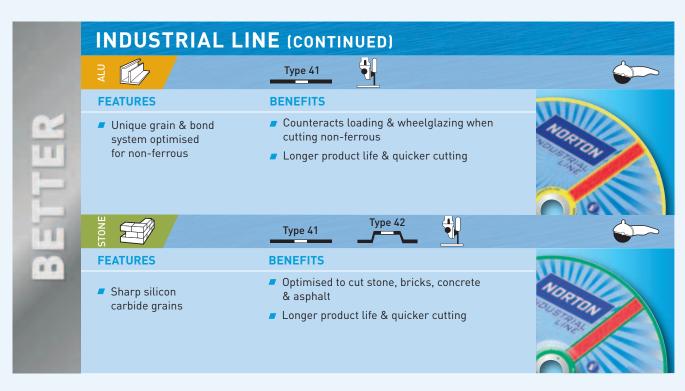


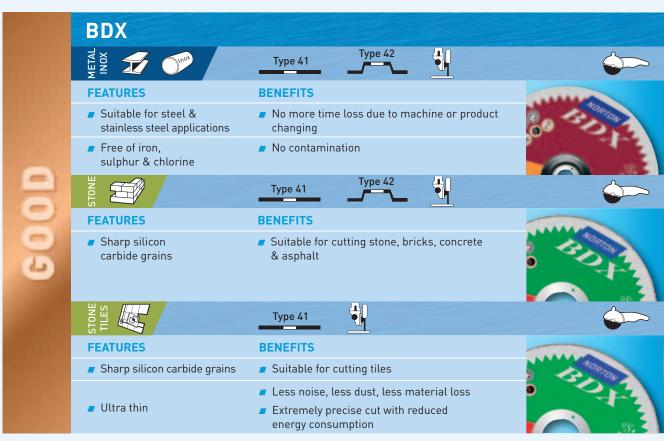
















PRODUCT	SI	1	EC	T	0	N									
USAGE KEY															
Highly recommended  Recommended	Multi-Purpose C46T-BF41	Multi-Purpose C60T-BF41	0.8mm Ultra Thin	NorZon Quick Cut	X-Treme Life A24R	X-Treme Life A36V	X-Treme Life A46V	X-Treme Life A60V	Industrial Line Metal-Inox	Industrial Line Inox	Industrial Line Non-ferrous	Industrial Line Stone	BDX Metal-Inox	BDX Stone	BDX Tile
	INN	OVAT BEST			BEST			BETTER				GOOD			
Steel, construction steel															
Low-allow steel									_						
High-alloy steel															
High-alloy steel															
High-alloy steel Thin sheets, plates profiles															
High-alloy steel Thin sheets, plates profiles Stainless steel, Inox															
High-alloy steel Thin sheets, plates profiles Stainless steel, Inox Cast iron															
High-alloy steel Thin sheets, plates profiles Stainless steel, Inox Cast iron Non-ferrous Titanium Stone, concrete															
High-alloy steel Thin sheets, plates profiles Stainless steel, Inox Cast iron Non-ferrous Titanium															



# CUTTING-OFF WHEELS FOR ANGLE GRINDERS

		M	IETAL INOX					
			O.8mm ULTRA THIN	<b>NorZop</b> quick cut	XTREM	INDUSTRIAL LINE	BDX	
DIA mm)	TxB (mm)	PK QTY	INNOVATION BEST	BE	ST	BETTER	GOOD	
Type 41								
	1,6x16,0	25		662529 <b>51007</b>		662528 <b>29945</b>		
100	2,0x16,0	25				662529 <b>50985</b>	662528 <b>29395</b>	
	1,0x22,23	25		662528 <b>29663</b>	662529 <b>19427</b>	662528 <b>29482</b>	662528 <b>31452</b>	
115	1,6x22,23	25		662528 <b>29496</b>	662529 <b>20339</b>	662528 <b>29764</b>	662528 <b>31451</b>	
115	2,0x22,23	25		662528 <b>31458</b>	662529 <b>20340</b>	662528 <b>29927</b>	662528 <b>31456</b>	
	2,5x22,23	25			662529 <b>21564</b>		662528 <b>31454</b>	
	1,0x22,23	25		662528 <b>32682</b>	662529 <b>20341</b>	662528 <b>29925</b>	662528 <b>31541</b>	
	1,6x22,23	25		662528 <b>29577</b>	662529 <b>20342</b>	662528 <b>29572</b>	662528 <b>31460</b>	
125	2,0x22,23	25		662528 <b>31463</b>	662529 <b>20343</b>	662528 <b>29928</b>	662528 <b>31462</b>	
	2,5x22,23	25		662528 <b>33117</b>	662529 <b>20350</b>		662528 <b>31461</b>	
	1,6x22,23	25			662529 <b>20344</b>			
150	2,0x22,23	25		662528 <b>33118</b>			662528 <b>32741</b>	
	2,5x22,23	25		662529 <b>21570</b>		662528 <b>29923</b>	662528 <b>32948</b>	
	1,6x22,23	25		662528 <b>32870</b>	662529 <b>20345</b>	662528 <b>29946</b>	662528 <b>32631</b>	
180	2,0x22,23	25		662528 <b>31469</b>	662529 <b>20346</b>	662528 <b>29929</b>	662528 <b>31468</b>	
	2,5x22,23	25		662528 <b>32734</b>	662529 <b>20347</b>	662528 <b>29932</b>	662528 <b>31466</b>	
	1,9x22,23	25		662528 <b>32683</b>	662529 <b>20348</b>	662528 <b>29926</b>	662528 <b>32686</b>	
230	2,0x22,23	25		662528 <b>31478</b>	662529 <b>20351</b>	662528 <b>29488</b>	662528 <b>31476</b>	
	2,5x22,23	25		662528 <b>31474</b>	662529 <b>20349</b>	662528 <b>29934</b>	662528 <b>31471</b>	
			Type 42					
	2,5x16,0	25				662528 <b>29948</b>	662528 <b>31497</b>	
100	3,2x16,0	25		662528 <b>31502</b>		662528 <b>29950</b>	662528 <b>31500</b>	
	0,8x22,23	25	662528 <b>33239</b>					
115	2,5x22,23	25		662528 <b>31506</b>	662529 <b>21567</b>	662528 <b>29930</b>	662528 <b>31504</b>	
0	3,2x22,23	25		662528 <b>31510</b>	662529 <b>21568</b>	662528 <b>29769</b>	662528 <b>31508</b>	
	0,8x22,23	25	662528 <b>33240</b>	00202001010	00202721000	00202027707	00202001000	
125	2,5x22,23	25	0020200240	662528 <b>31516</b>	662529 <b>18816</b>	662528 <b>29931</b>	662528 <b>31513</b>	
	3,2x22,23	25		662528 <b>31519</b>		662528 <b>29936</b>	662528 <b>31517</b>	
					662529 <b>18819</b>	00202027700		
150	2,5x22,23	25		662528 <b>32730</b>		//05000054	662528 <b>32738</b>	
	3,2x22,23	25		662528 <b>32731</b>	//252040045	662528 <b>29951</b>	662528 <b>32632</b>	
180	2,5x22,23	25		662528 <b>31524</b>	662529 <b>18817</b>	662528 <b>29933</b>	662528 <b>31522</b>	
	3,2x22,23	25		662528 <b>31527</b>	662529 <b>18820</b>	662528 <b>29770</b>	662528 <b>31525</b>	
230	2,5x22,23	25		662528 <b>31529</b>	662529 <b>18818</b>	662528 <b>29935</b>	662528 <b>31494</b>	
	3,2x22,23	25		662528 <b>31532</b>	662529 <b>18821</b>	662528 <b>29771</b>	662528 <b>29430</b>	







	ALUMINIUM 🐤										
			INDUSTRIAL LINE								
DIA (mm)	TxB (mm)	PK QTY	BETTER								
-			Type 41								
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>								
230	2,5x22,23	25	662528 <b>29987</b>								



# CUTTING-OFF WHEELS FOR ANGLE GRINDERS

		S	TONE/TILES		4						
			INDUSTRIAL LINE	В	RDX						
DIA	TxB	PK	BETTER	GO	OD						
(mm)	(mm)	QTY	STONE MEDIUM	STONE	TILE						
	Type 41										
100	3,0x16,0	25		662528 <b>31450</b>							
100	1,6x22,23	25		0020201400	662528 <b>32952</b>						
115	2,5x22,23	25	662528 <b>29891</b>	662528 <b>32941</b>	002020 <b>02702</b>						
	3,0x22,23	25	002020 <b>27071</b>	662528 <b>31459</b>							
	1,6x22,23	25		3323231.67	662528 <b>32953</b>						
125	2,5x22,23	25	662528 <b>29892</b>	662528 <b>32942</b>							
	3,0x22,23	25		662528 <b>31464</b>							
150	2,5x22,23	25	662528 <b>29907</b>								
400	2,5x22,23	25	662528 <b>29893</b>	662528 <b>32945</b>							
180	3,0x22,23	25		662528 <b>31470</b>							
230	2,5x22,23	25	662528 <b>29894</b>	662528 <b>32848</b>							
230	3,0x22,23	25		662528 <b>31480</b>							
			Type 42								
	2,5x16,0	25		662528 <b>31498</b>							
100	3,2x16,0	25		662528 <b>31501</b>							
	2,5x22,23	25		662528 <b>31505</b>							
115	3,2x22,23	25	662528 <b>29896</b>	662528 <b>31509</b>							
	2,5x22,23	25		662528 <b>31515</b>							
125	3,2x22,23	25	662528 <b>29897</b>	662528 <b>31518</b>							
150	2,5x22,23	25		662528 <b>32739</b>							
150	3,2x22,23	25		662528 <b>32740</b>							
180	2,5x22,23	25		662528 <b>31523</b>							
180	3,2x22,23	25		662528 <b>31526</b>							
230	2,5x22,23	25		662528 <b>31495</b>							
230	3,2x22,23	25	662528 <b>29898</b>	662528 <b>31496</b>							



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



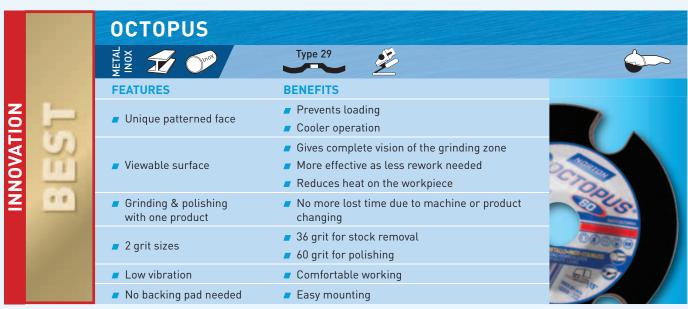


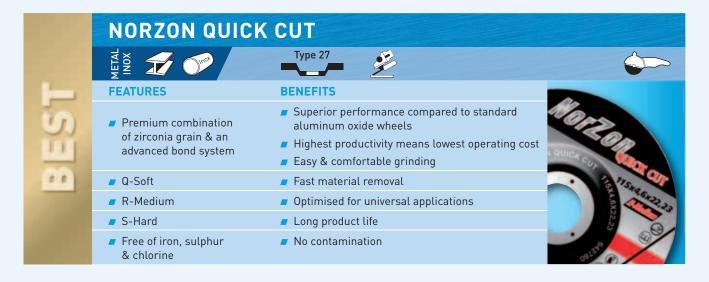
NOTES		

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

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

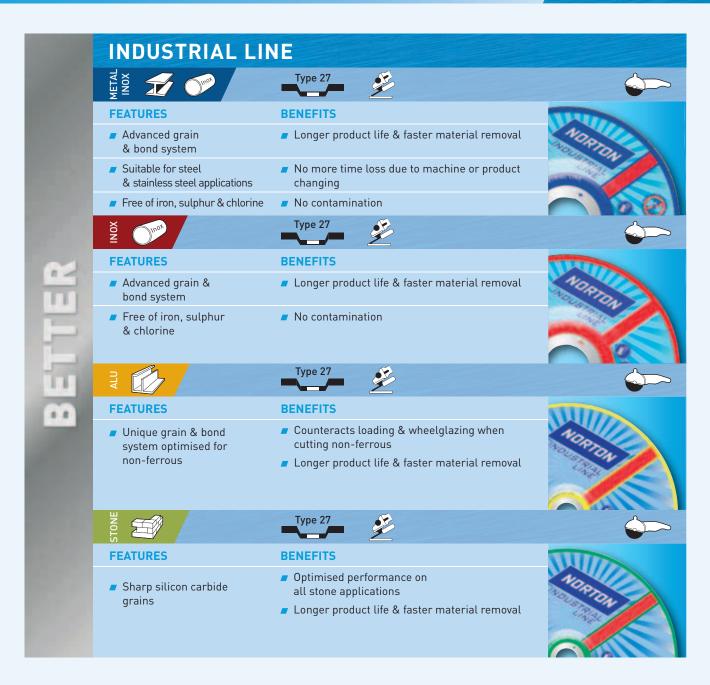


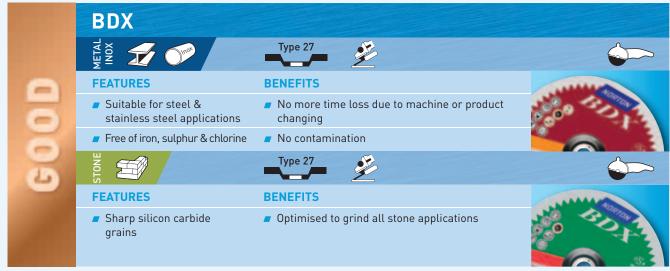












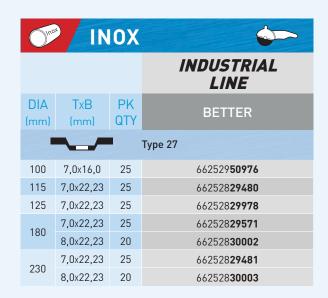
PRODUCT	SE	LE	СТ	10	N							
USAGE KEY  Highly recommended  Recommended	Octopus A36T-BF29	Octopus A60T-BF29	NorZon Quick Cut S-Hard	NorZon Quick Cut R-Medium	NorZon Quick Cut Q-Soft	Industrial Line Metal-Inox Medium	Industrial Line Metal-Inox Soft	Industrial Line Inox	Industrial Line Non-ferrous	Industrial Line Stone	BDX Metal-Inox	BDX Stone
	INNOV BE	ATION ST		BEST				BETTER	2		GO	OD
Steel, construction steel												
Low-allow steel												
High-alloy steel												
Stainless steel, Inox												
Cast iron												
Non-ferrous												
Titanium												
Stone, concrete												

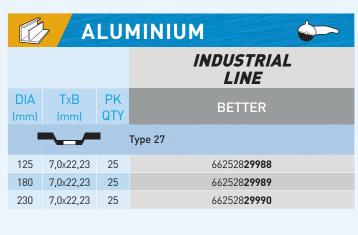






	Jinox	N	1ETAL	INOX						
			POCT	OPUS	No	r <b>Zon</b> quic	CK CUT		TRIAL NE	BDX
DIA (mm)	TxB (mm)	PK QTY	ВЕ	ATION ST		BEST		BET		GOOD
			A 36 T-BF29	A 60 T-BF29	S-HARD	R-MEDIUM	Q-SOFT	MEDIUM	SOFT	
			Type 27							
	4,0x16,0	25				//05000044/				662528 <b>31398</b>
100	4,6x16,0	25				662528 <b>33116</b>		662529 <b>50987</b>		
	6,5x16,0	10								662528 <b>31400</b>
	7,0x16,0	25			662528 <b>31404</b>	662528 <b>31403</b>		662528 <b>29953</b>	662529 <b>50989</b>	
	4,0x22,23	25								662528 <b>31406</b>
115	4,6x22,23	25				662528 <b>32729</b>		662528 <b>29939</b>		
	6,5x22,23	10				//050004/40		//050000/00	//050000/0/	662528 <b>31408</b>
	7,0x22,23	25				662528 <b>31412</b>		662528 <b>29483</b>	662528 <b>29484</b>	//0500007//
	4,0x22,23	25			662528 <b>32684</b>	662529 <b>50962</b>		//05000005		662528 <b>29766</b>
125	4,6x22,23	25				662528 <b>29673</b>		662528 <b>29937</b>		//050004/45
	6,5x22,23	10			//050004/00	//050004/04	//0500005/5	//050000/05	//05000000	662528 <b>31415</b>
	7,0x22,23	25 25			662328 <b>31422</b>	662528 <b>31421</b>	662328 <b>32141</b>	662528 <b>29485</b>	662328 <b>29922</b>	
150	4,6x22,23 6,5x22,23	10				662528 <b>32732</b>				662528 <b>32633</b>
130	7,0x22,23	25			662528 <b>32733</b>	662528 <b>33119</b>		662528 <b>29954</b>		00232032033
	4,0x22,23	25				662529 <b>50963</b>		002320 <b>27734</b>		662528 <b>29477</b>
	4,6x22,23	25			002320 <b>32071</b>	662528 <b>31429</b>		662528 <b>29938</b>		002320 <b>27477</b>
	6,5x22,23	10				00202001427		00202027700		662528 <b>31431</b>
180	7,0x22,23	25			662528 <b>31434</b>	662528 <b>31433</b>	662528 <b>32745</b>	662528 <b>29486</b>	662528 <b>29487</b>	00202001401
	8,0x22,23	20						662528 <b>29940</b>		
	9,0x22,23	15						662528 <b>29955</b>		
	4,0x22,23	25			662528 <b>32685</b>	662529 <b>50964</b>				662528 <b>31439</b>
	4,6x22,23	25				662528 <b>31438</b>				
000	6,5x22,23	10								662528 <b>31440</b>
230	7,0x22,2	25				662528 <b>31446</b>				
	7,0x22,23	25			662528 <b>31447</b>		662528 <b>32746</b>	662528 <b>29489</b>	662528 <b>29490</b>	
	8,0x22,23	20						662528 <b>30004</b>		
	~		Type 29							
115	4,0x22,23	20	662528 <b>29991</b>	662528 <b>29992</b>						
125	4,0x22,23	20	662528 <b>29993</b>							
.20	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		00202027770	00202027774						





	S	TON	IE .	
			INDUSTRIAL LINE	BDX
DIA (mm)	TxB (mm)	PK QTY	BETTER	GOOD
		•	Type 27	
100	6,5x16,0	10		662528 <b>31401</b>
115	6,5x22,23	10		662528 <b>31409</b>
125	6,5x22,23	10		662528 <b>31416</b>
150	6,5x22,23	10		662528 <b>32944</b>
100	6,5x22,23	10		662528 <b>31432</b>
180	7,0x22,23	25	662528 <b>29905</b>	
230	6,5x22,23	10		662528 <b>31441</b>
230	7,0x22,23	25	662528 <b>29906</b>	



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





NOTES	
	_

## WHEELS FOR STRAIGHT GRINDERS

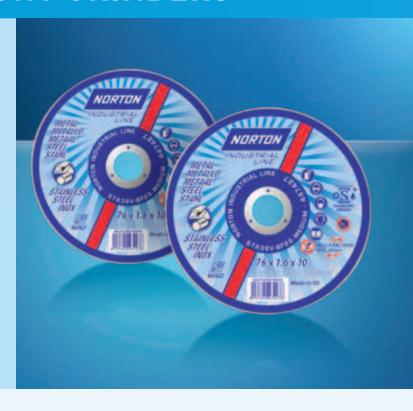
Norton's wide range of cutting and grinding wheels for straight grinders provide high value and high performance industrial solutions.

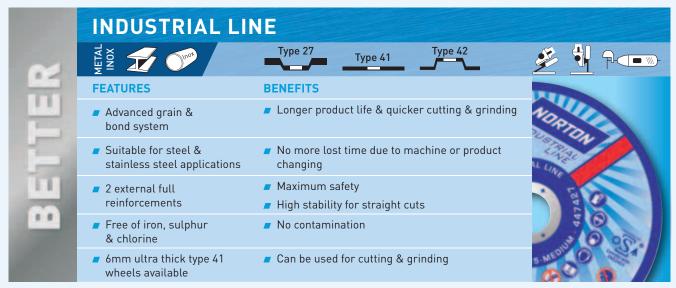
#### **APPLICATIONS & MARKETS**

Aerospace

60

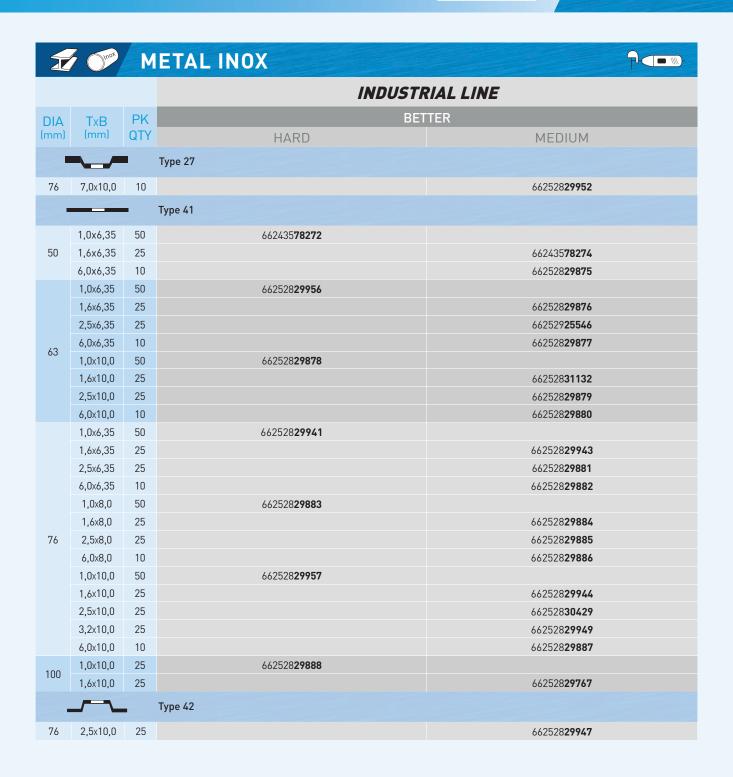
- Automotive
- Construction
- Fabrication
- Foundry
- Rail industry
- Ship-building







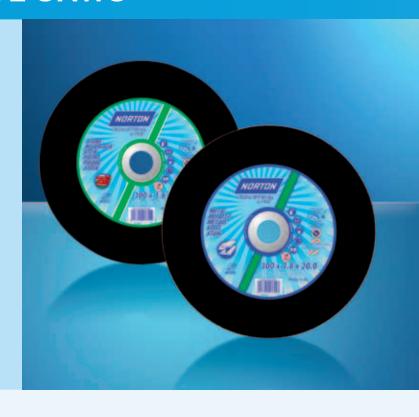


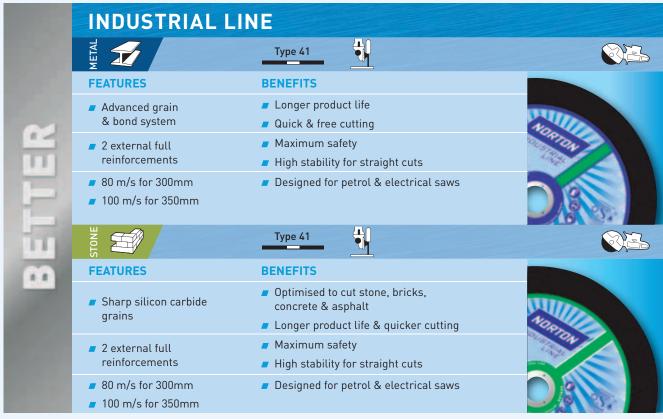


## **WHEELS FOR PETROL SAWS**

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

- Construction
- Fabrication
- Foundry
- Rail industry









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

STONE STONE							
INDUSTRIAL LINE							
DIA (mm)	TxB (mm)	PK QTY	BETTER				
	Type 41						
	3,8x20,0	10	662528 <b>29900</b>				
300	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>				
330	3,8x22,23	10	662528 <b>29904</b>				

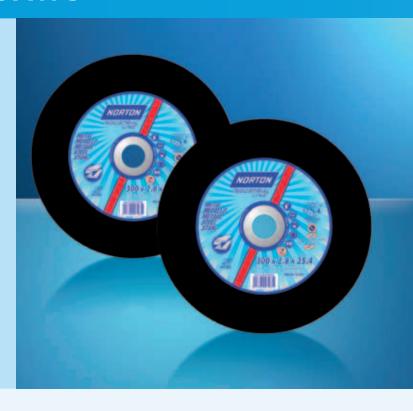


## **WHEELS FOR CHOP SAWS**

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

#### **APPLICATIONS & MARKETS**

- Construction
- Fabrication
- Foundry
- Maintenance











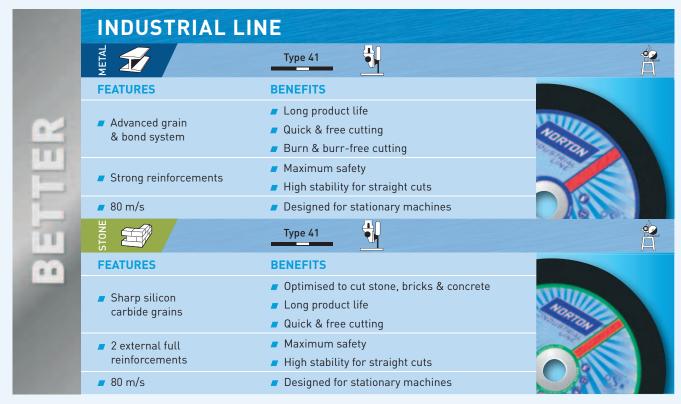
NOTES			

## WHEELS FOR STATIONARY MACHINES

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

- Construction
- Fabrication
- Foundry

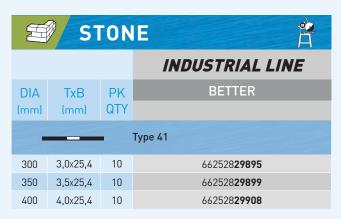










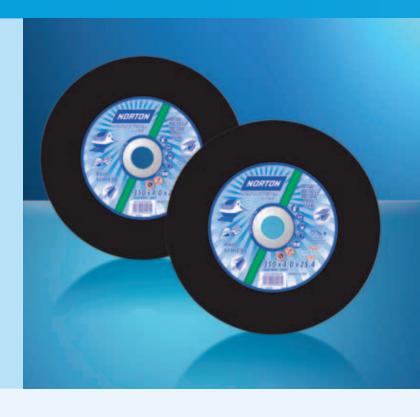


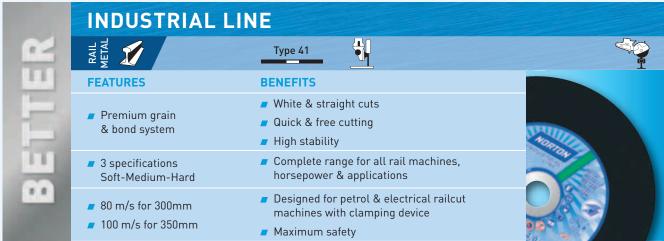
## WHEELS FOR RAIL

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

#### **APPLICATIONS & MARKETS**

Rail industry





RAIL METAL								
					INDUSTRIAL LINE			
DIA	TxB	MOS	PK		BETTER			
(mm)	(mm)	(m/s)	QTY	HARD	MEDIUM	SOFT		
	Type 41							
300	3,5x20,0	80	10		662528 <b>29589</b>			
300	3,5x22,23	80	10		662528 <b>29585</b>	662528 <b>33257</b>		
	4,0x20,0	100	10		662528 <b>29586</b>			
350	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>		

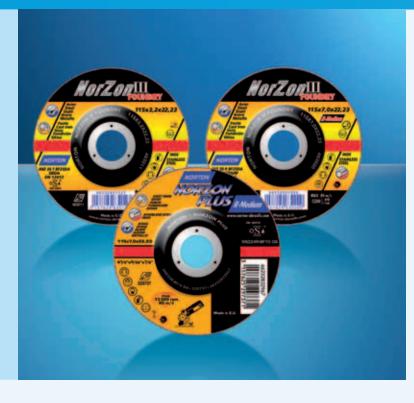




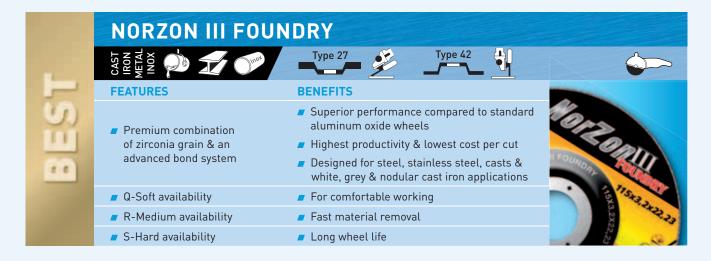
NOTES			
-			

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

- Fabrication
- Foundry















## **WHEELS FOR FOUNDRY**

NOTES			

# NORTON

74 INTRODUCTION

**76 INTRODUCTION BY MARKET** 

**84 PRODUCT SELECTION** 

98 FIBRE DISCS

102 SEMI-FLEXIBLE DISCS

104 FLAP DISCS

110 MULTI-AIR® DISCS

116 NORGRIP® & SOFT-TOUCH® DISCS

128 SELF-ADHESIVE DISCS

132 PLAIN DISCS

134 DOUBLE-SIDED DISCS

136 CUT SHEETS

144 SHEETS

148 ABRASIVE SPONGES & STEEL WOOL

150 ROLLS

164 FILE BELTS

168 PORTABLE BELTS

172 NARROW BELTS

184 WIDE BELTS

186 FLAP WHEELS

192 SPEEDLOK® DISCS

#### 200 SPECIALTIES

- CARTRIDGE ROLLS

- SPIRABANDS

- SLOTTED DISCS

- SQUARE PADS

- SANDING STARS

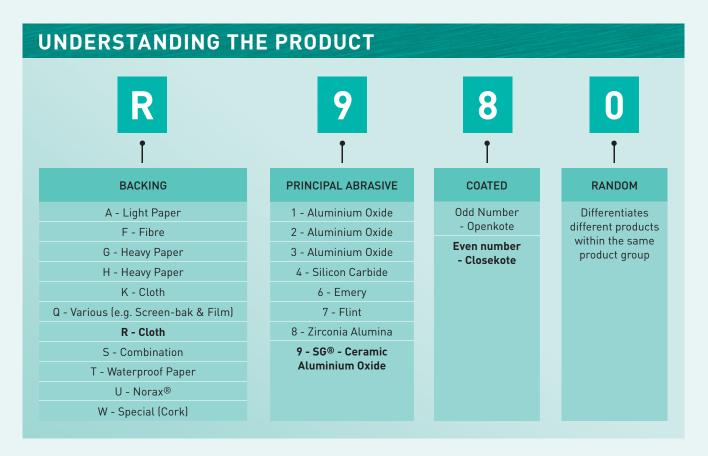
- CONES

- FLEXI DISCS

208 TUNGSTEN CARBIDE BURRS

216 ADHESIVE PRODUCTS

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.



#### **BACKING TYPES**

Whether paper, cloth, vulcanised fibre or polyester film, the backing must be smooth enough for uniform adhesive coating, stong 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.



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.



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

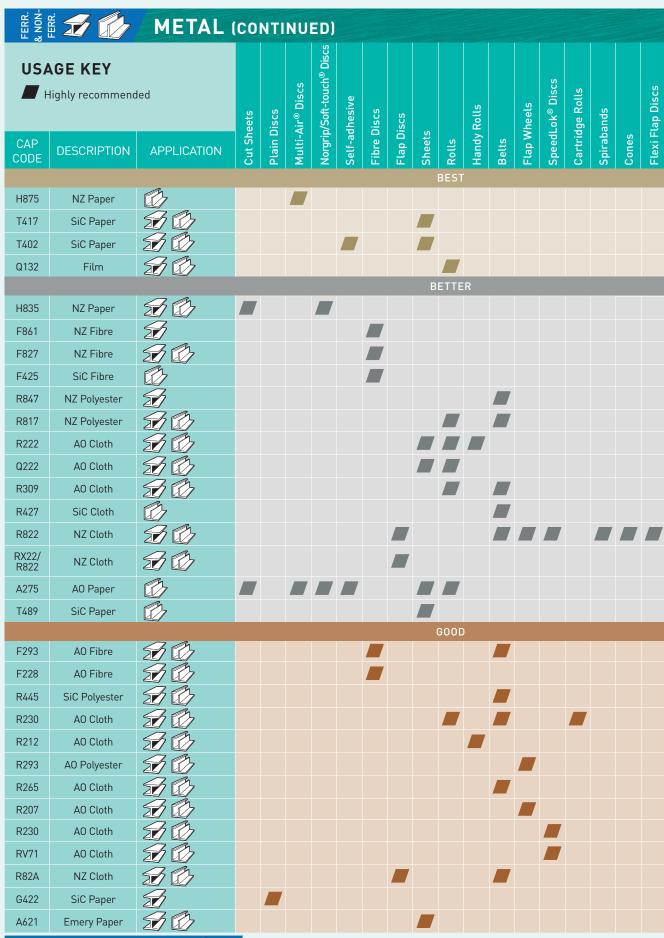
Norton offers a range of coated abrasive products suitable for all metal applications including cutting, surface preparation and finishing. Norton offers the best abrasive solutions for the most stringent operations in various applications.



METAL WORKING		METAL FINISHING								
APPLICATIONS	SUITABLE PRODUCTS	APPLICATIONS	SUITABLE PRODUCTS							
☐ Grinding & blending welds	□ Flap discs	Finishing of stainless steel	NORaX <sup>®</sup> belts							
Heavy grinding & deburring		Cleaning & finishing								
Grinding all types of metals	<ul> <li>Narrow belts</li> </ul>	<ul> <li>Light to heavy duty cleaning</li> </ul>	→ BearTex <sup>®</sup> discs							
Light to medium deburring	✓ SpeedLok <sup>®</sup> discs									

FERR.		METAL																	
USA	eets	liscs	Multi-Air® Discs	Norgrip/Soft-touch® Discs	Self-adhesive	iscs	iscs			Rolls		heels	SpeedLok <sup>®</sup> Discs	Cartridge Rolls	ands		Flexi Flap Discs		
CAP CODE	DESCRIPTION	APPLICATION	Cut Sheets	Plain Discs	Multi-	Norgri	Self-ac	Fibre Discs	Flap Discs	Sheets	Rolls	Handy Rolls	Belts	Flap Wheels	Speedl	Cartric	Spirabands	Cones	Flexi F
	INNOVATI										BEST								
U 242	NORaX <sup>®</sup>																		
R929	SG Polyester	<b>A</b>																	
R980	SG Polyester																		
R880	NZ Polycotton																		
											BEST								
F971	SG Fibre																		
F975	SG Fibre																		
F986	SG Fibre																		
R984	SG Polyester																		
R981	SG Polyester																		
U366	A0 Polyester																		
RX22/ R822	NZ Cloth																		
H231	AO Paper																		
A975	AO Paper																		





FERROUS



# **WOOD, FLOOR, VARNISH, PAINT & COMPOSITES**

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.

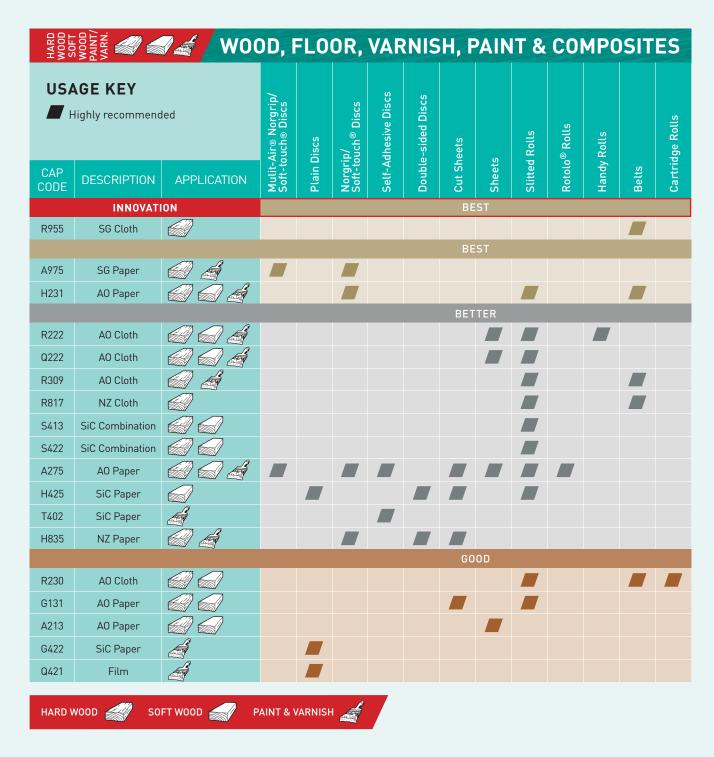




NORTON



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



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

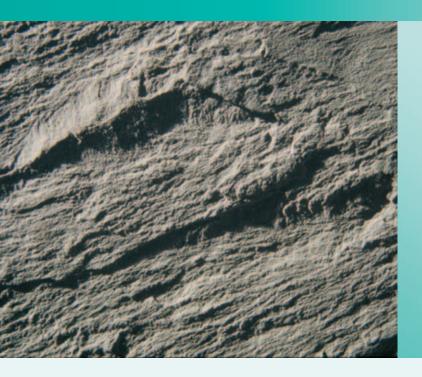


MAIN APPLICATIONS	SUITABLE PRODUCTS
∠ Edge grinding	Narrow belts
∠ Edge finishing	Cork belts
<ul> <li>Removal of coating after cutting</li> </ul>	∠ BearTex <sup>®</sup> wheels
☐ Windshield logo removal	File narrow belts









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

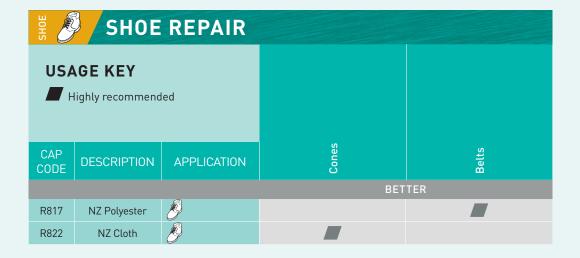
MAIN APPLICATIONS	SUITABLE PRODUCTS
Polishing	□ Plain discs, Norgrip <sup>®</sup> discs
Cleaning & finishing	

STONE	STON	E							
_	AGE KEY Highly recommend	led	Discs	Semi-Flexible Discs	Double-sided Discs	Discs	eets	Portable belts	
CAP CODE	DESCRIPTION	APPLICATION	Plain Discs	Semi-I	Double	Fibre Discs	Cut Sheets	Portab	Rolls
						BEST			
Q400	SiC								
						BETTER			
F425	SiC Fibre								
H425	SiC Paper								
G422	SiC Paper								
						GOOD			
R427	SiC Cloth								

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
∠ Edge chamfering	Cones Specialties
Edge grinding	□ Belts







NOTES		

USAGE KEY  Stock products												
Made-to-order												
PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	009	500	400	360
			BRE I	חובר	S							
F228	0.6-0.8 Wt Fibre A0			D130	<i>3</i>							
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/A0											
F975	0.8 Wt Fibre SG											
F971	0.8 Wt Fibre SG											
		FL	AP D	ISCS	5							
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											
		DIS	SCS									
A277	E* Wt Heavy Paper A0											
A275 Soft-Touch®	B Wt Soft Touch® AO											
A275 Norgrip®	B/E* Wt A0											
1975 Soft-Touch®	B Wt Soft Touch® AO											
A975 Norgrip®	B Wt SG/A0											
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/A0											
Q421	Grid Wt SiC											
Q263	Grid Wt SiC											
R293	X/Y Poly Wt A0/SG											
R445	X/Y Poly Wt SiC											
R473	X Poly Wt Aggreg. SiC											





320	280	240	220	180	150	120	100	80	09	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 <sup>®</sup>
	_	_	_	_	_	_		_									A975 Soft-Touch®
																	A975 Norgrip®
																	G131 Norgrip®
																	G422
																	G422 Norgrip®
								_									H822
																	H231 Norgrip®
																	H425
																	H425 Norgrip®
					_												H835
																	Q421
																	Q263
																	R293
																	R445
																	R473

USAGE KEY												
Stock produc	ets											
Made-to-orde												
PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	009	200	400	360
RODUCT CODE	DESCRIPTION						_	ω	9	L)	7	en H
		DIS	SCS (	CONT	INUE	D)						
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/A0											
R846	Y Poly Wt ZR/A0											
R847	Y Poly Wt Zir											
R922	X Cotton Wt Heavy Cloth SG/A0											
R926	X Cotton Wt Heavy Cloth SG/A0											
R949	X Poly Wt SG/A0											
R984	Y Poly Wt SG											
RX84	Y Poly Wt Delta/A0											
S413	Comb. Paper Wt SiC											
S422	Comb. Paper Wt SiC											
T402	A Wt Waterproof SiC											
		CU		EET								
A213	B Wt Light Paper AO											
A275	B Wt Light Paper AO											
A975	B Wt Light Paper SG (Cer)+ A0											
G131	E* Wt Heavy Paper A0											
H231	F Wt Heavy Paper A0											
H425	E Wt Heavy Paper SiC											
H835	E Wt Heavy Paper ZR/A0											
Q421	Grid Wt SiC											
R230	X Cotton Heavy Cloth AO											
R265	X Cotton Heavy Cloth AO											
R287	JJ Cotton Wt Light Cloth AO											





320	040	280	240	220	180	150	120	100	80	09	50	40	36	30	24	20	16	PRODUCT CODE
	d																	
																		R230
	7																	R270
																		R275
																		R287
																		R296
																		R309
		_																R426
	7																	R427
																		R817
																		R823
																		R846
																		R847
																		R922
																		R926
																		R949
																		R984
																		RX84
																		S413
																		S422
																		T402
	7																	A213
	7																	A275
	7																	A975
																		G131
	7																	H231
																		H425
																		H835
	7																	Q421
																		R230
	7																	R265
	7																	R287

USAGE KE	Υ											
Stock produ	cts											
Made-to-ord	der											
RODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	009	200	400	360
		CU	T SH	EET!	S (CO	NTIN	UED)					
R309	JJ Cotton Wt Light Cloth AO											
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											
		SH	EETS	5								
A213	B Wt Light Paper A0											
A213	C Wt Light Paper AO											
A275	B Wt Light Paper AO											
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 AO											
R222	J Wt Light Cloth AO											
T221	C Wt Waterproof SiC											
T402	A Wt Waterproof SiC**											
T417	B/C Wt Waterproof SiC											
T489	B Wt Waterproof SiC											
		SL	ITTE	D RO	LLS							
A213	B Wt Light Paper A0											
A213	C Wt Light Paper AO											
A277	E* Wt Heavy Paper A0											
A455	E* Wt Heavy Paper SiC											
A275	B Wt Light Paper A0											
A275 Rotolo®	B Wt Rotolo® AO											
A275 Norgrip <sup>®</sup>	B Wt AO											
A621	C Wt Light Paper Emery**											

<sup>\*\*</sup>Special Grading



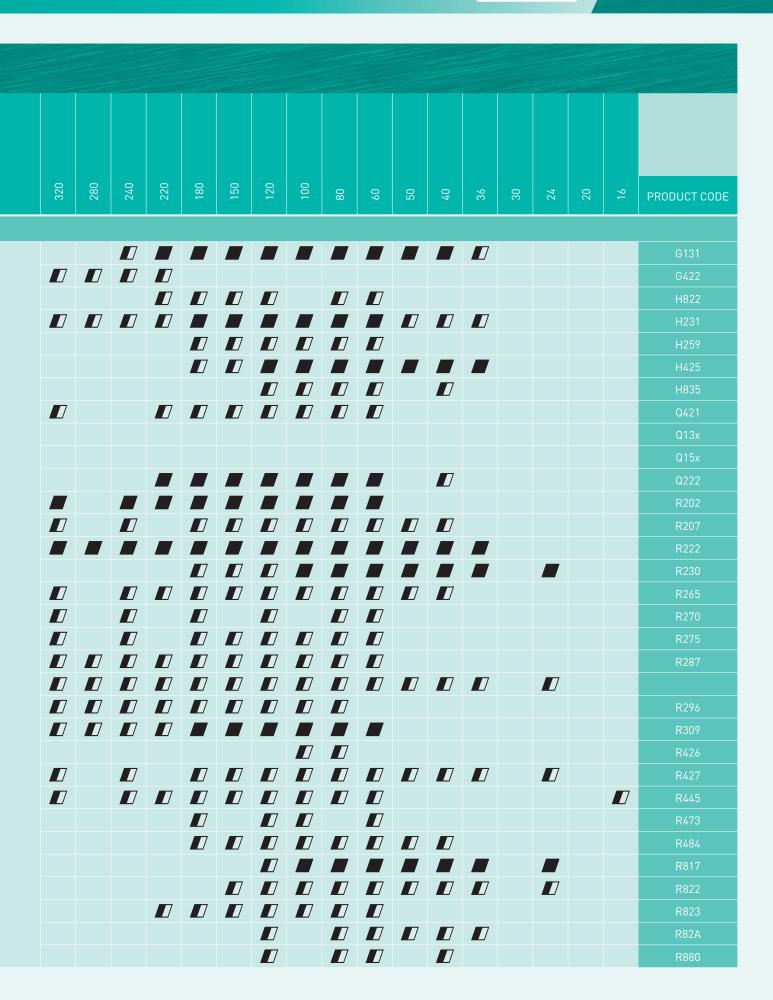


									-								
320	280	240	220	180	150	120	100	08	09	20	40	36	30	24	20	16	PRODUCT CODE
																	R309
																	R426
																	R427
																	R822
																	R922
																	A213
_			_	_		_											A213
																	A275
																	A413
				4/0													A621
					3/0	2/0	0	1 :	2 ;	3 4	5	6					A721
Fi	ne	ı	Medium	า		Coarse				Very 0	Coarse						K625
																	Q421
																	Q222
																	R222
																	T221
																	T402
																	T417
																	T489
																	A213
																	A213
																	A277
																	A455
																	A275
																	A275 Rotolo®
																	A275 Norgrip®
				4/0													A621
																	BD25
																	BD25 Norgrip®

USAGE KEY	<b>/</b>											
Stock produc	cts											
Made-to-ord	er											
RODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	009	200	400	360
		SL	ITTE	D RO	LLS	(CON	TINU	ED)				
G131	E* Wt Heavy Paper A0											
G422	E Wt Heavy Paper SiC											
H822	E Wt Heavy Paper ZR											
H231	F Wt Heavy Paper AO											
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 AO											
Q15x	5mm Film Wt AO											
Q222	Non woven Wt AO											
R202	J Cotton Wt AO											
R207	X Cotton Heavy Cloth AO											
R222	J Wt Light Cloth AO											
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 Polyester Wt AO/SG											
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											
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/AO											
	X Cotton Heavy Cloth ZR/AO											



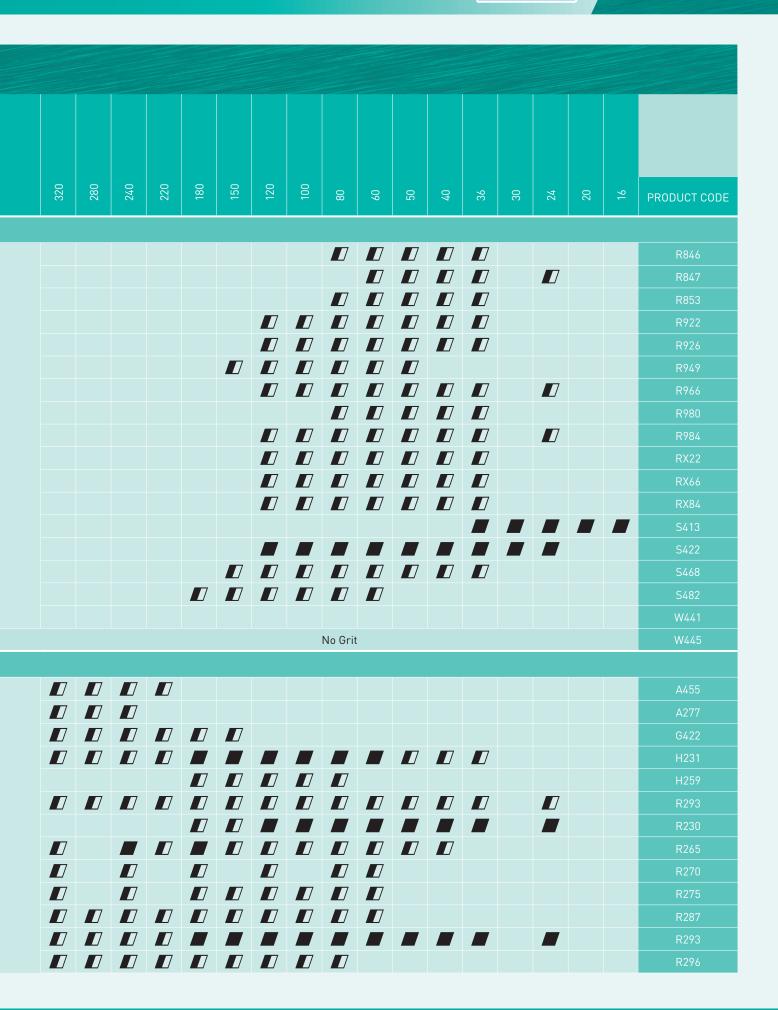




USAGE KEY	1											
Stock produc	cts											
Made-to-ord	er											
PRODUCT CODE	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	009	200	400	360
		SL	ITTE	D RO	LLS	(CON	TINU	ED)				
R846	Y Poly Wt ZR/A0											
R847	Y Poly Wt Zir											
R853	YY Poly Wt ZR											
R922	X Cotton Wt Heavy Cloth SG/A0											
R926	X Cotton Wt Heavy Cloth SG/A0											
R949	X Poly Wt SG/A											
R966	Y Poly Wt SG/A0											
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	t				
		BE	LTS									
A455	E* Wt Heavy Paper SiC											
A277	E* Wt Heavy Paper A0											
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/A0											



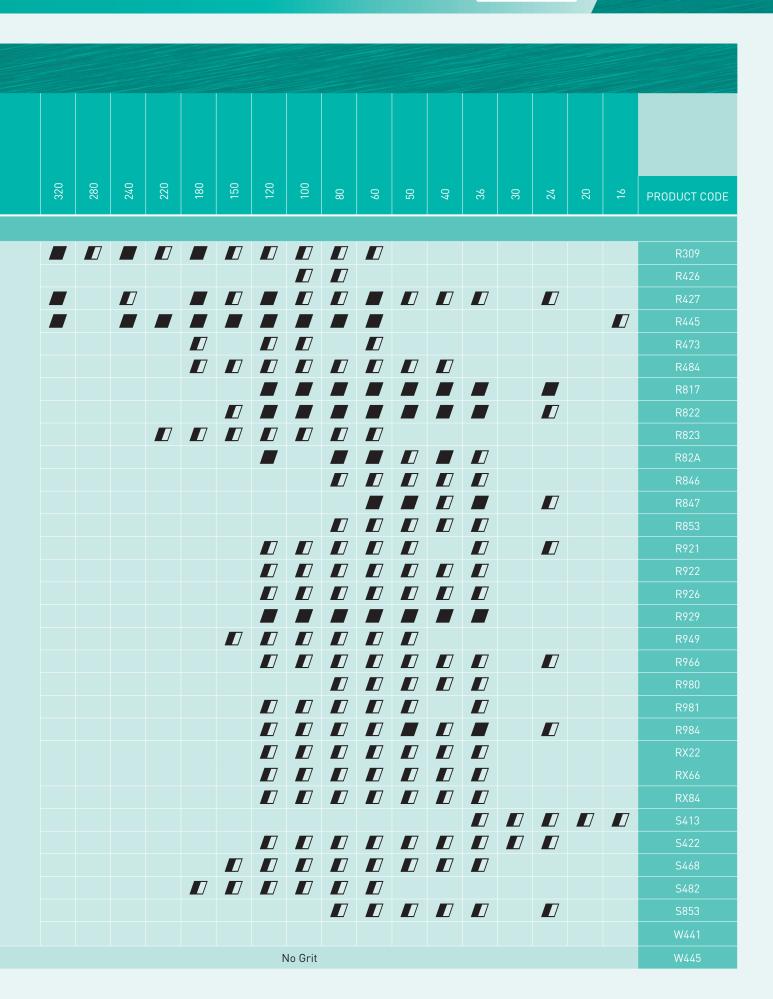




Stock produc  Made-to-orde												
PRODUCT CODE	er											
	DESCRIPTION	3000	2500	2000	1500	1200	1000	800	009	200	400	360
		BE	LTS	(CON	TINUE	ED)						
R309	JJ Cotton Wt Light Cloth AO											
R426	J Cotton Wt Light Cloth SiC											
R427	X Cotton Heavy Cloth SiC											
R445	X/Y Poly 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/AO											
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/AO											
R929	Poly Wt AO/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											







PRODU	CT S	SEL	ECT	ION							
USAGE KEY	×3	X4	X5	X10	X15	X16	X20	X22	X30	X35	
Stock products  Made-to-order											
PRODUCT CODE			3000	1500	1200	1200	1000	800	200	400	
	NOREZ	BELT	S, SHEE	ETS & D	ISCS						
U142											
U152											
U162											
U234											
U242											
U243											
U254											
U264											
U336											
U366											
U434											
U442											
U454											
U464											
U466											
	NOR	SHEE	TS & DI	ISCS ON	ILY						
U321											
U331											
U381											



						00	0	00	0	
X40	X45	X65	X70	08X	06X	X100	X110	X200	X210	
360	320	220	220	180	180	150	150	80	80	
က	က	2	2	_	_	_	_	-	ω	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® 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















# MAXIMUM OPERATING SPEED

DIA (mm)	MOS (m/s)	MAX RPM	
100	80	5300	■ The maxim
115	80	13300	speed of a This is com
125	80	12300	label by wa
150	80	10200	which is a
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

STAN	IDA	RD							
			GREEN PLUS	GREENLYTE	NORZON PLUS	NORZON			
DIM	CDIT	PK	BE	ST		BETTER		G0	OD
DIAxH (mm)	GRIT	QTY	F971	F975	F861	F827	F425	F293	F228
100x16	36	25		636423 <b>68921</b>					
•	60	25		636423 <b>68923</b>					
	24	25				699573 <b>60048</b>	636425 <b>45163</b>	636425 <b>47861</b>	076607 <b>07354</b>
	36	25	636425 <b>68805</b>	636425 <b>68819</b>	699573 <b>95190</b>	636425 <b>39615</b>	636425 <b>37161</b>	636425 <b>35056</b>	076607 <b>07355</b>
	50	25	636425 <b>68806</b>	636425 <b>68820</b>	699573 <b>95191</b>	699573 <b>60053</b>		076607 <b>05216</b>	076607 <b>07356</b>
115x22	60	25	636425 <b>68807</b>	636425 <b>68821</b>	699573 <b>95192</b>	636425 <b>39616</b>	636425 <b>37239</b>	636425 <b>36900</b>	076607 <b>07357</b>
•	80	25	636425 <b>68808</b>	636425 <b>68822</b>	699573 <b>95193</b>	636425 <b>39617</b>	636425 <b>48543</b>	076607 <b>05214</b>	076607 <b>07358</b>
	100	25						076607 <b>05213</b>	076607 <b>07359</b>
	120	25			699573 <b>95194</b>	636425 <b>33055</b>	636425 <b>12988</b>	076607 <b>05212</b>	076607 <b>07360</b>
	220	25					636425 <b>12989</b>		
	24	25				636425 <b>39619</b>	636425 <b>08423</b>	636425 <b>47907</b>	076607 <b>07366</b>
	36	25	636425 <b>68809</b>	636425 <b>68823</b>	699573 <b>95195</b>	636425 <b>36483</b>	636425 <b>46187</b>	636425 <b>47906</b>	076607 <b>07361</b>
	50	25	636425 <b>68810</b>	636425 <b>68824</b>	699573 <b>95196</b>	636425 <b>39620</b>		636425 <b>47905</b>	076607 <b>07362</b>
125x22	60	25	636425 <b>68811</b>	636425 <b>68825</b>	699573 <b>95198</b>	699573 <b>60057</b>	636425 <b>51570</b>	636425 <b>47904</b>	076607 <b>07363</b>
•	80	25	636425 <b>68812</b>	636425 <b>68826</b>	699573 <b>95199</b>	636425 <b>39622</b>	636425 <b>07453</b>	636425 <b>47903</b>	076607 <b>07364</b>
	100	25				636425 <b>36484</b>		636425 <b>47902</b>	662611 <b>53113</b>
	120	25			699573 <b>95200</b>	636425 <b>33056</b>	636425 <b>07454</b>	636425 <b>47901</b>	076607 <b>07365</b>
	220	25					636425 <b>47695</b>		
	24	25					636425 <b>52311</b>		
150x22	36	25					636425 <b>36911</b>		
	60	25					636425 <b>07448</b>		
	120	25					636425 <b>07451</b>		
	220	25					699573 <b>51128</b>		

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





STAN	IDA	RD (	CONTINU	ED)					
			GREEN WIE	GREENLYTE	NORZON PLUS	NORZON			
DIM	GRIT	PK	ВЕ	ST		BETTER		GO	OD
DIAxH(mm)	GRII	QTY	F971	F975	F861	F827	F425	F293	F228
	24	25				636425 <b>33062</b>	636425 <b>34249</b>	636425 <b>33108</b>	076607 <b>07367</b>
	36	25	636425 <b>68813</b>	636425 <b>68827</b>	699573 <b>95201</b>	636425 <b>33063</b>	699573 <b>60039</b>	636425 <b>33107</b>	076607 <b>07368</b>
	50	25	636425 <b>68814</b>	636425 <b>68828</b>	699573 <b>95202</b>	636425 <b>33064</b>		636425 <b>35057</b>	076607 <b>07369</b>
180x22	60	25	636425 <b>68815</b>	636425 <b>68830</b>	699573 <b>95204</b>	636425 <b>33065</b>	699573 <b>60040</b>	636425 <b>33105</b>	076607 <b>07370</b>
	80	25	636425 <b>68816</b>	636425 <b>68831</b>	699573 <b>95206</b>	636425 <b>33066</b>	699573 <b>60041</b>	636425 <b>33104</b>	076607 <b>07371</b>
	100	25				636425 <b>33067</b>		636425 <b>33103</b>	076607 <b>07372</b>
	120	25			699573 <b>95207</b>	636425 <b>33068</b>	636425 <b>36718</b>	636425 <b>33102</b>	076607 <b>07373</b>
	220	25					699573 <b>60044</b>		

MOU	LDE	D			
			GREEN PLUS	GREEN LYTE	NORZON PLUS
DIM	CDIT	PK	BE	ST	BETTER
DIAxH (mm)	GRIT	QTY	F971	F975	F861
	36	100	636425 <b>68836</b>	636425 <b>68832</b>	699573 <b>95209</b>
180x22	50	100	636425 <b>68837</b>	636425 <b>68833</b>	699573 <b>95210</b>
	60	100	636425 <b>68838</b>	636425 <b>68834</b>	699573 <b>95212</b>
•	80	100	636425 <b>68839</b>	636425 <b>68835</b>	699573 <b>95213</b>
	120	100			699573 <b>95214</b>

В	ACK-U	P PADS							
		AIRC00	L				NYLON		
DIA (mm)	DENSITY	ATTACHMENT	PK QTY		DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
100	Hard	M14	1	699573 <b>89886</b>	100	HARD	M10	5	636425 <b>35414</b>
115	Hard	M14	1	699573 <b>82821</b>	100	MEDIUM	M10	5	636425 <b>35412</b>
115	Medium	M14	1	699573 <b>89797</b>	115	HARD	M14	5	699573 <b>82828</b>
	Hard	M14	1	699573 <b>82823</b>	115	MEDIUM	M14	5	699573 <b>82825</b>
125	Medium	5/8	1	636425 <b>88240</b>		HARD	M14	5	699573 <b>82829</b>
	Medium	M14	1	699573 <b>89803</b>	125	MEDIUM	5/8	5	636425 <b>88341</b>
	X Hard	M14	1	636425 <b>96383</b>		MEDIUM	M14	5	699573 <b>82826</b>
170	Hard	M14	1	699573 <b>82824</b>		HARD	M14	5	699573 <b>82830</b>
178	Medium	5/8	1	636425 <b>88243</b>	178	MEDIUM	5/8	5	636425 <b>88345</b>
	Medium	M14	1	699573 <b>89804</b>		MEDIUM	M14	5	699573 <b>82827</b>

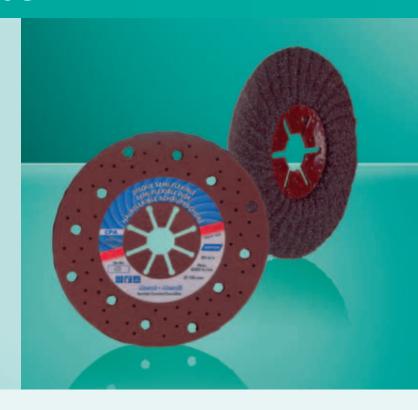
 $All\ Norton\ fibre\ disc\ back-up\ pads\ comply\ with\ ISO\ 15636\ which\ is\ the\ International\ Worldwide\ standard\ for\ angle\ grinder\ pads$ 

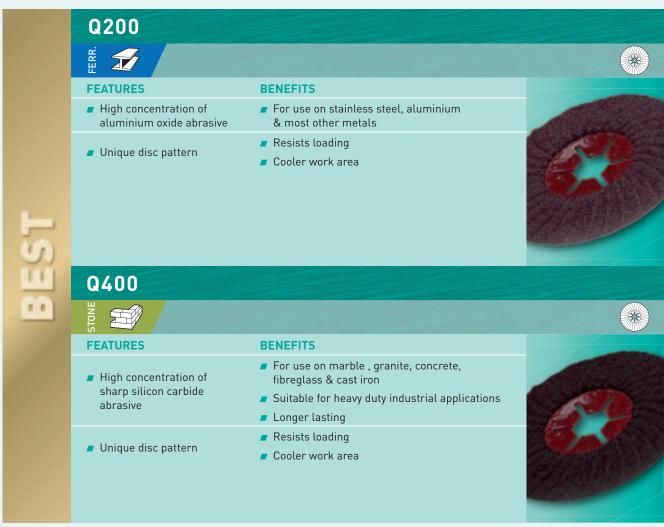


Semi-flexible discs are made by coating heavy duty fibre with multiple layers of a special resin bonded abrasive. They can be used in a wide range of applications instead of depressed centre grinding wheels.

#### **APPLICATIONS & MARKETS**

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

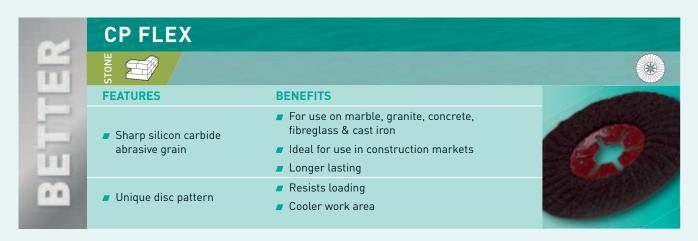




**Dimensions Key:** DIM = Dimensions, DIA = Diameter, H = Hole







## **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>			
DIM	ODIT	PK	BEST			
DIAxH(mm)	GRIT	QTY	CONVEX			
	24	25	076607 <b>17653</b>			
127x22	36	25	076607 <b>17654</b>			
	60	25	076607 <b>17655</b>			
	80	25	076607 <b>17656</b>			
	24	25	076607 <b>17647</b>			
180x22	36	25	076607 <b>17648</b>			
	60	25	076607 <b>17650</b>			
	80	25	076607 <b>17651</b>			

CPS	CPS DISCS SILICON CARBIDE							
			04	CP FLEX				
DIM	אט		BE	BETTER				
DIAxH (mm)	GRIT	QTY	MOULDED/CONVEX	FLAT	FLAT			
	16	25		076607 <b>07935</b>				
127x22	24	25	076607 <b>05207</b>	076607 <b>07937</b>	076607 <b>19292</b>			
Siz	36	25	076607 <b>07946</b>	076607 <b>07454</b>	076607 <b>19293</b>			
	60	25	076607 <b>18494</b>		076607 <b>19294</b>			
	80	25	076607 <b>07948</b>		076607 <b>19295</b>			
	16	25	076607 <b>05202</b>	076607 <b>17646</b>				
	24	25	076607 <b>05203</b>	076607 <b>07931</b>	076607 <b>19296</b>			
180x22	36	25	076607 <b>05204</b>	076607 <b>07933</b>	076607 <b>19297</b>			
	60	25	076607 <b>05205</b>	076607 <b>07934</b>	076607 <b>19298</b>			
	80	25	076607 <b>05206</b>		076607 <b>19299</b>			
	120	25	076607 <b>07943</b>					

BACK-UP PADS									
DIA (mm)	DENSITY	ATTACHMENT	PK QTY	NYLON					
125	Hard	M14	5	699573 <b>82829</b>					
180	Hard	M14	5	699573 <b>82830</b>					

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

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

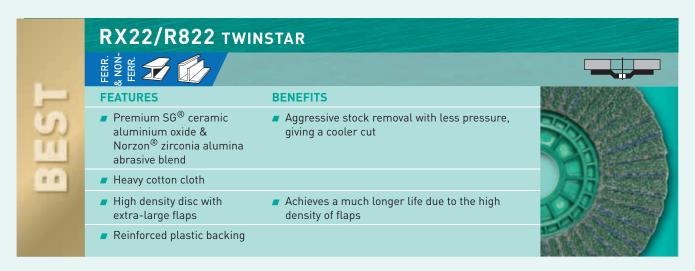


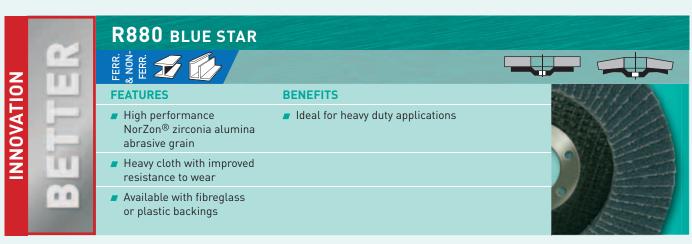
Conical



**SHAPE KEY** 









### **R822** NORFIBER FERR. NON-**FEATURES BENEFITS** High performance Good stock removal NorZon® zirconia alumina abrasive grain Heavy cotton cloth Fibreglass backing **R822** NORTECH **FEATURES BENEFITS** ■ NorZon® zirconia alumina Aggressive cut abrasive grain Heavy cotton cloth Double flap disc construction Plastic backing BDX**R822** BDX **FEATURES BENEFITS** Good stock removal High performance NorZon® zirconia alumina abrasive grain Heavy cotton cloth Fibreglass backing **R82A** NORTECH 2 **FEATURES BENEFITS** Norzon® zirconia alumina & Aggressive cut aluminum oxide abrasive blend Heavy cotton cloth Double flap disc construction Plastic backing **R265** NORTECH **FEATURES BENEFITS** Fast initial cut rate especially on carbon steel Durable aluminum oxide abrasive grain Heavy cotton cloth Double flap disc construction Plastic backing





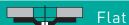
FIBREGLASS BACKED								
			SG BLAZE	JUMB0	<b>BLUE STAR</b>	NORSTAR	NORFIBER	BDX
			INNOVATION					
DIM	GRIT	PK QTY	BEST		BETTER	BETTER GOOD		סנ
DIAxH(mm)			R980	R880	R880	RX22/R822	R822	R822
		Conica						
	24				40055074000	40440504444		
	36	10			699573 <b>51380</b>	636425 <b>34666</b>		
	40	10	699573 <b>92030</b>	699573 <b>51401</b>	699573 <b>51385</b>	636425 <b>34667</b>	636425 <b>53075</b>	
	40	200*						636425 <b>15039</b>
	60	10	699573 <b>92028</b>	699573 <b>51402</b>	699573 <b>51386</b>	636425 <b>34668</b>	636425 <b>53076</b>	
115x22	60	200*						636425 <b>15040</b>
	80	10	699573 <b>94106</b>	699573 <b>51403</b>	699573 <b>51387</b>	636425 <b>34669</b>	636425 <b>53077</b>	
	80	200*						636425 <b>49442</b>
	120	10			699573 <b>51388</b>	636425 <b>34670</b>	699573 <b>87295</b>	
	120	200*						636425 <b>15041</b>
	36	10			699573 <b>51391</b>	636425 <b>14934</b>		
	40	10	699573 <b>92031</b>	699573 <b>51404</b>	699573 <b>51392</b>	636425 <b>63571</b>	636425 <b>53079</b>	
	40	160*						636425 <b>50311</b>
	60	10	699573 <b>92097</b>	699573 <b>51405</b>	699573 <b>51393</b>	636425 <b>68611</b>	636425 <b>53080</b>	
125x22	60	160*						636425 <b>50312</b>
	80	10	699573 <b>94108</b>	699573 <b>51406</b>	699573 <b>51394</b>	636425 <b>49404</b>	636425 <b>53081</b>	
	80	160*						636425 <b>15042</b>
	120	10			699573 <b>51395</b>	636425 <b>50474</b>	699573 <b>87300</b>	
	120	160*						636425 <b>15043</b>
	36	10			699573 <b>51396</b>	636425 <b>34671</b>		
	40	10		699573 <b>51407</b>	699573 <b>51397</b>	699573 <b>36664</b>	699573 <b>87302</b>	
	40	60*						662611 <b>79318</b>
	60	10		699573 <b>51408</b>	699573 <b>51398</b>	636425 <b>49405</b>	699573 <b>87303</b>	
180x22	60	60*						662611 <b>79319</b>
	80	10		699573 <b>51409</b>	699573 <b>51399</b>	636425 <b>49406</b>	699573 <b>87304</b>	
	80	60*						662611 <b>79320</b>
	120	10			699573 <b>51400</b>	699573 <b>53208</b>	636425 <b>94667</b>	
	120	60*						699573 <b>53178</b>

<sup>\*</sup>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** 





Conical

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

FIBREGLASS BACKED								
			SG BLAZE	JUMB0	<b>BLUE STAR</b>	NORSTAR	NORFIBER	BDX
	GRIT	PK QTY	INNOVATION			BETTER	GOOD	
DIM DIAxH(mm)			BEST		BETTER	DETTER	0000	
DIAXH(IIIIII)		QII	R980	R880	R880	RX22/R822	R822	R822
		Flat						
	40	200*						636425 <b>27334</b>
115x22	60	200*						636425 <b>27336</b>
TTOXZZ	80	200*						636425 <b>27337</b>
	120	200*						699573 <b>53557</b>
	40	10			699573 <b>51424</b>			
	40	160*						636425 <b>27341</b>
	60	10			699573 <b>51425</b>			
125x22	60	160*						636425 <b>27343</b>
IZJAZZ	80	10			699573 <b>51426</b>			
	80	160*						636425 <b>27347</b>
	120	10			699573 <b>51427</b>			
	120	160*						699573 <b>53180</b>
	40	60*						699573 <b>53181</b>
180x22	60	60*						699573 <b>53182</b>
TOUXZZ	80	60*						699573 <b>53183</b>
	120	60*						699573 <b>53184</b>

<sup>\*</sup> 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





PLAS	STIC	ВА	CKED				
			TWINSTAR	BLUE STAR	NORTECH	NORTECH 2	NORTECH
DIM		DIA	BEST	INNOVATION		GOOD	
DIM DIAxH(mm)	GRIT	PK QTY		BETTER			
DIAXII(IIIII)		QII	RX22/R822	R880	R822	R82A	R265
		Flat					
	40	10	636425 <b>45568</b>	699573 <b>51411</b>			
	40	200*	333 123 1333	07707001111	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>
115x22	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>			
	120	200*			662610 <b>39469</b>	636425 <b>53612</b>	662610 <b>39467</b>
	40	10		699573 <b>51416</b>			
	40	160*			636425 <b>88032</b>		
	60	10		699573 <b>51417</b>			
125x22	60	160*			636425 <b>88033</b>		
120/22	80	10		699573 <b>51418</b>			
	80	160*			636425 <b>88031</b>		
	120	10		699573 <b>51419</b>			
	120	160*			699573 <b>53205</b>		
	40	10	636425 <b>45575</b>	699573 <b>51420</b>			
	40	60*	(0) (00)	(0055054.64	662610 <b>39476</b>	636425 <b>53613</b>	662610 <b>39474</b>
	60	10	636425 <b>45576</b>	699573 <b>51421</b>	/2//254/225	/2//2550/4/	//0/1000/04
180x22	60 80	60* 10	636425 <b>45577</b>	699573 <b>51422</b>	636425 <b>14335</b>	636425 <b>53614</b>	662610 <b>39481</b>
	80	60*	030420 <b>43377</b>	0770/3 <b>31422</b>	636425 <b>14336</b>	636425 <b>53615</b>	662610 <b>39485</b>
	120	10	636425 <b>82372</b>	699573 <b>51423</b>	03042314330	030423 <b>3013</b>	002010 <b>37403</b>
	120	60*	00042002012	07707001420	699573 <b>53207</b>	636425 <b>53616</b>	699573 <b>53888</b>

<sup>\*</sup> 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°

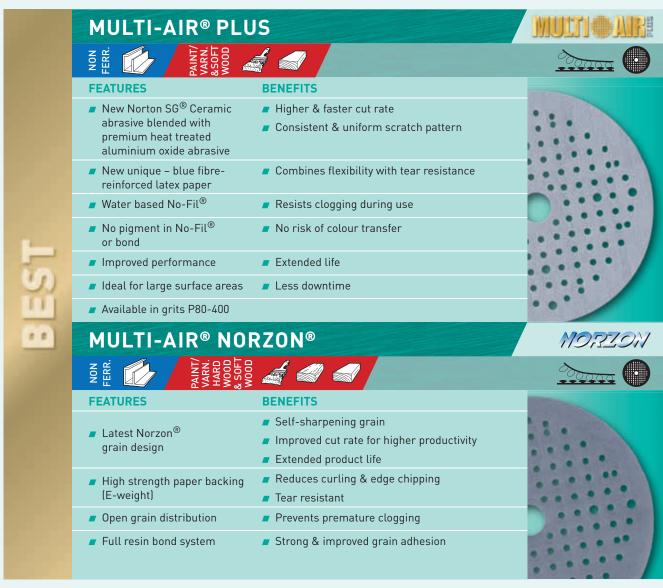
Norton Multi-Air Process® combines the excellence of a premium Norton Multi-Air® abrasive disc with an innovative dust-extraction Multi-Air® back-up pad.

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

### **APPLICATIONS & MARKETS**

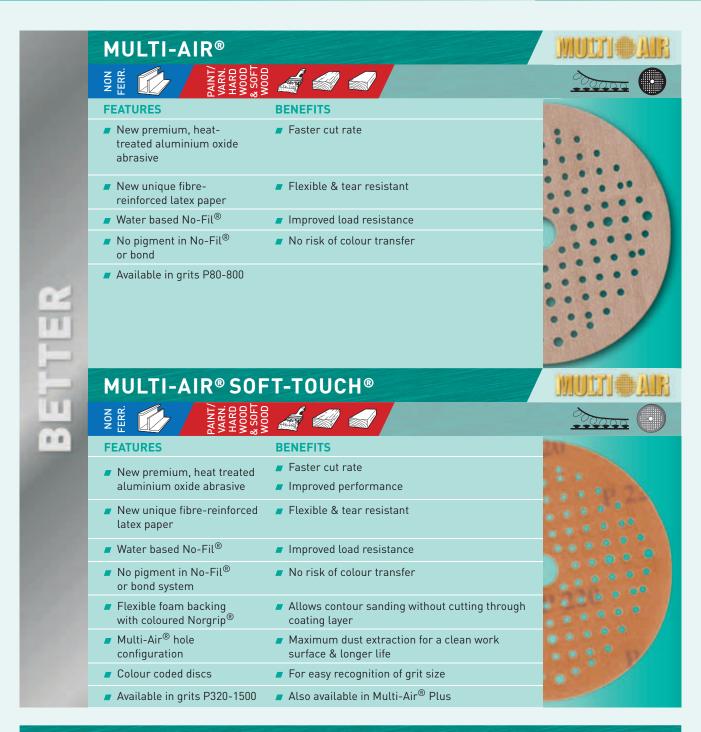
- Automotive
- Primer
- Furniture
- Marine gel coat
- Paint
- Non-ferrous metals
- Composites
- Aerospace



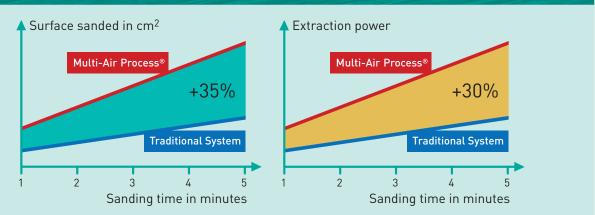








## **ADVANTAGES OF MULTI-AIR PROCESS®**

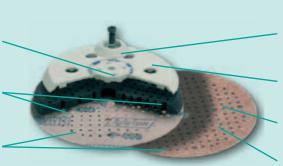


## **NORTON MULTI-AIR PROCESS®**

Universal backing pad fixings to suit most popular machine types

Dust extraction panels

Alignment holes allow accurate location to the backing pad



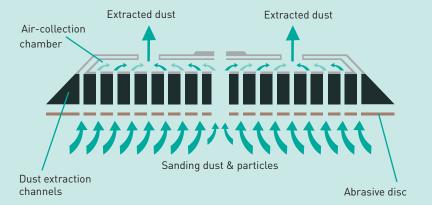
Adapters to suit Festo sanding machines

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** 例此行為以證 PK **GRIT TYPE BEST** QTY Multi-Air® Plus 80 5 120 Multi-Air® Plus 5 Multi-Air® Plus 5 240 Multi-Air® Plus 5 320 69957395370 Multi-Air® Plus Soft-Touch® 3 Multi-Air® Plus 5 400 Multi-Air® Plus Soft-Touch® 3 Medium Multi-Air® Back-up Pad





BEST	RZON MULTIQAIR
BEST	
	BETTER
	636425 <b>63513</b>
	636425 <b>63514</b>
	636425 <b>63515</b>
	636425 <b>63516</b>
	636425 <b>63517</b>
	636425 <b>63518</b>
	636425 <b>63519</b>
	636425 <b>63520</b>
	636425 <b>63521</b>
	636425 <b>63522</b>
	636425 <b>63523</b>
	636425 <b>63524</b>
	636425 <b>63525</b>
662611 <b>81412</b>	2
	636425 <b>60561</b>
	636425 <b>60562</b>
	636425 <b>60563</b>
	636425 <b>60564</b>
	636425 <b>60565</b>
	636425 <b>60566</b>
	636425 <b>60567</b>
	636425 <b>60568</b>
	636425 <b>60569</b>
	636425 <b>60570</b>
	636425 <b>60571</b>
	636425 <b>60572</b>
	636425 <b>60573</b>

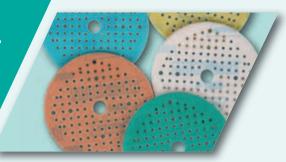
MULTI	-AIR® KIT		MULTI-AIR
GRIT	TYPE	PK QTY	BETTER
80	Medium Multi-Air <sup>®</sup> NorZon <sup>®</sup>	5	
120	Multi-Air <sup>®</sup>	5	
240	Multi-Air <sup>®</sup>	5	
320	Multi-Air <sup>®</sup>	5	ADSTOR OF
/00	Multi-Air <sup>®</sup>	5	636425 <b>87576</b>
400	Multi-Air <sup>®</sup> Soft-Touch <sup>®</sup>	3	MALSAN TELL ST
500	Multi-Air <sup>®</sup> Soft-Touch <sup>®</sup>	3	20,000
800	Multi-Air <sup>®</sup> Soft-Touch <sup>®</sup>	3	MULTICAL
	Medium Multi-Air® Back-up Pad	1	

SOFT-	TOU	CH® MUL	TI-AI	R <sup>®</sup>	<u> </u>
				MULTI@AIR PLUS	MULTI@AIR
DIM DIAxH(mm)	GRIT	COLOUR	PK QTY	BEST	BETTER
	320	Salmon	20	636425 <b>63544</b>	636425 <b>63526</b>
	400	Yellow	20	636425 <b>63545</b>	636425 <b>63527</b>
125x18	500	Dark Blue	20		636425 <b>63528</b>
	600	Fuchsia	20		636425 <b>63529</b>
	800	Turquoise	20		636425 <b>63530</b>
	1000	White	20		636425 <b>63531</b>
	1500	Green	20		636425 <b>63532</b>
	320	Salmon	20	636425 <b>86352</b>	636425 <b>60574</b>
	400	Yellow	20	636425 <b>86353</b>	636425 <b>60575</b>
150x18	500	Dark Blue	20		636425 <b>60576</b>
(•)	800	Turquoise	20		636425 <b>60577</b>
	1000	White	20		636425 <b>60578</b>
	1500	Green	20		636425 <b>60579</b>

PRODUCT SELECTION		
APPLICATION	GRIT	COLOUR
SOFT-TOUCH DISCS®		
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







BACK-	BACK-UP PADS MULTI-AIR PROCESS®							
DIM (mm)	DENSITY	ATTACHMENT	PK QTY					
125	Medium	5/16 & M8	1	636425 <b>63533</b>				
120	Soft	5/16 & M8	1	636425 <b>63534</b>				
	Hard	5/16 & M8	1	076607 <b>19198</b>				
	Medium HT	5/16 & M8	1	636425 <b>85872</b>				
150	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	INTER	FACE PADS MULTI-AIR PROCESS®
DIM (mm)	PK QTY	
125	16	636425 <b>85864</b>
150	12	076607 <b>19359</b>

PRODUCT SELECTION	
APPLICATION	DENSITY
BACK-UP PADS	
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	Medium
Final sanding, to obtain the best finishes	Soft



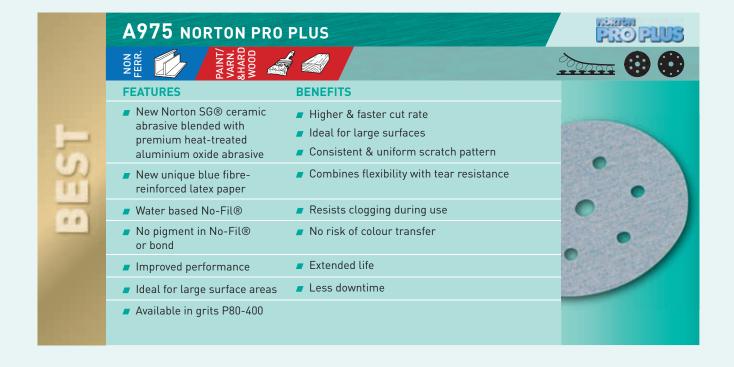
Norgrip® and Soft-Touch® discs have a quick release backing that allows quick and easy disc changing, increasing performance by minimising downtime. Soft-Touch® discs also include a foam backing that improves product performance and gives an even longer product life. The foam layer absorbs unevenness 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

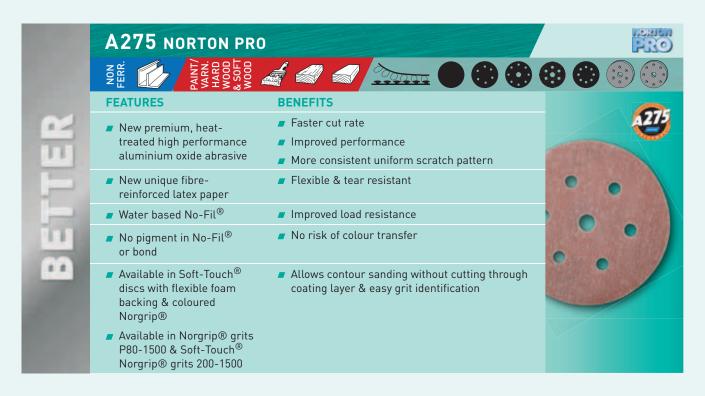
- Light weld blending & deburring
- Sanding bare wood











NORG	RIP®	DIS	CS			20000
			PRO PLUS		BLUE <sub>FIRE</sub>	NORTON PRO
DIM	GRIT	PK	BE	ST	BETT	ER
DIAxH(mm)	GKII	QTY	A975	H231	H835	A275
	240	50				636425 <b>69718</b>
	320	50				636425 <b>69731</b>
76	400	50				636425 <b>69719</b>
•	500	50				636425 <b>69720</b>
	600	50				636425 <b>69721</b>
	800	50				636425 <b>69723</b>
	80	50				636425 <b>85133</b>
	120	50				636425 <b>85145</b>
	150	50				636425 <b>85148</b>
	180	50				636425 <b>85150</b>
	220	50				636425 <b>85153</b>
76	240	50				636425 <b>85156</b>
	280	50				636425 <b>85161</b>
	320	50				636425 <b>69699</b>
	360	50				636425 <b>85165</b>
	400	50				636425 <b>85169</b>
	500	50				699573 <b>89051</b>
	600	50				699573 <b>89052</b>
	800	50				636425 <b>85172</b>





			PRO PLUS		BLUE <sub>FIRE</sub>	NORTON <b>PRO</b>
DIM	ODIT	PK	BE	ST	BET	
AxH(mm)	GRIT	QTY	A975	H231	H835	A275
36 40 60 125 80	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>	
<b>(35)</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>		
	80	100				699573 <b>51501</b>
	100	100				699573 <b>51503</b>
	120	100				699573 <b>51506</b>
125x8	150	100				699573 <b>51508</b>
<b>A</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>
	600	100				699573 <b>51511</b>
	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	150	100		699573 <b>60170</b>		636425 <b>69702</b>
150	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>

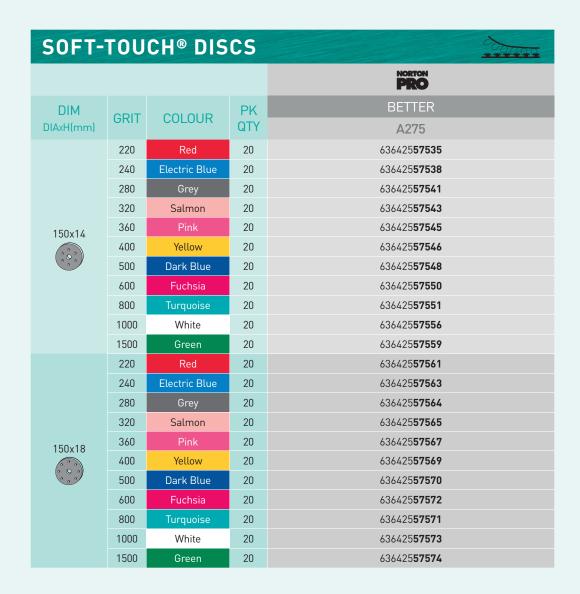
IORG	RIP®	DIS	CS (CONTINUE	D)		2000
			PRO PLUS		BLUE <sub>FIRE</sub> (M	NORTON PRO
DIM	ODIT	PK	ВЕ	ST	BET	TER
AxH(mm)	GRIT	QTY	A975	H231	H835	A275
	36	100		699573 <b>51529</b>		
	40	25		662610 <b>26066</b>	699573 <b>91250</b>	
	60	25		699573 <b>82764</b>	699573 <b>91255</b>	
	80	50	636425 <b>27655</b>	662610 <b>26069</b>	699573 <b>91256</b>	636425 <b>57950</b>
	100	100		662610 <b>26070</b>		636425 <b>86135</b>
	120	50	636425 <b>27659</b>	662610 <b>26071</b>	699573 <b>91257</b>	636425 <b>57954</b>
	150	100	636425 <b>27657</b>	662610 <b>26072</b>		636425 <b>86141</b>
50x14	180	100	636425 <b>27661</b>	699573 <b>51530</b>		636425 <b>86142</b>
	220	100	636425 <b>27662</b>			636425 <b>86143</b>
	240	100	636425 <b>27666</b>	699573 <b>51531</b>		636425 <b>57955</b>
	280	100	636425 <b>27667</b>			636425 <b>86144</b>
	320	100	636425 <b>27669</b>	699573 <b>51532</b>		636425 <b>57959</b>
	360	100				636425 <b>86148</b>
	400	100	636425 <b>27670</b>			636425 <b>57962</b>
	500	100				636425 <b>86150</b>
	600	100				636425 <b>57964</b>
	800	100				636425 <b>84990</b>
	40	25		636425 <b>50341</b>	699573 <b>91258</b>	
	60	25		636425 <b>36740</b>	699573 <b>91260</b>	
	80	50	636425 <b>27612</b>	636425 <b>36741</b>	699573 <b>91261</b>	636425 <b>57968</b>
	100	100		636425 <b>68763</b>		636425 <b>85059</b>
	120	50	636425 <b>65918</b>	636425 <b>46779</b>	69957 <b>391262</b>	636425 <b>57969</b>
	150	100	636425 <b>65919</b>	636425 <b>46781</b>		636425 <b>57970</b>
FO 40	180	100	636425 <b>27633</b>	636425 <b>46834</b>		636425 <b>85064</b>
50x18	220	100	636425 <b>65921</b>			636425 <b>85065</b>
	240	100	636425 <b>65922</b>	636425 <b>68766</b>		636425 <b>85067</b>
	280	100	636425 <b>65923</b>			636425 <b>85069</b>
	320	100	636425 <b>65924</b>			636425 <b>57973</b>
	360	100				636425 <b>85078</b>
	400	100	636425 <b>27647</b>			636425 <b>57974</b>
	500	100				636425 <b>57975</b>
	600	100				636425 <b>85073</b>
	800	100				636425 <b>85074</b>





ORG	RIP®	DIS	CS (CONTINUED			0000
			PRO PLUS		BLUE <sub>FIRE</sub>	NORTON PRO
DIA	GRIT	PK	BES.	Т	BETT	ΓER
(mm)	GRII	QTY	A975	H231	H835	A275
	40	25			699573 <b>91263</b>	
	60	25			699573 <b>91268</b>	
	80	50			699573 <b>91269</b>	636425 <b>85236</b>
	100	100				636425 <b>85242</b>
	120	50			699573 <b>91272</b>	636425 <b>85243</b>
000	150	100				636425 <b>85244</b>
203	180	100				636425 <b>85245</b>
	220	100				636425 <b>85246</b>
	240	100				636425 <b>85248</b>
	280	100				636425 <b>85249</b>
	320	100				636425 <b>85250</b>
	360	100				636425 <b>85251</b>
	400	100				636425 <b>85252</b>





## **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
SOFT-TOUCH DISCS®		
	220	Red
Sanding of filler before primer	240	Electric Blue
Conding of astanhaustic primer	280	Grey
Sanding of cataphoretic primer	320	Salmon
	360	Pink
Conding of polywrothone primer	400	Yellow
Sanding of 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



PRODUCT SELECTION						
ATTACHMENT TYPE	MACHINE					
BACK-UP PADS						
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> <li>Different densities, available in most popular perforations/dust hole patterns</li> </ul>	Applies to a full range of applications with optimal dust extraction
New back plate technology	<ul><li>Heavy duty design</li><li>Long life</li></ul>
Attachments for different tools	Adapts to all common orbital sanders
Easy-peel technology	Longer life of gripping layer
Colour coding of foam layer	Easy & quick hardness identification

BACK-UP PADS							
DENSITY	COLOUR	APPLICATION					
Hard	Black	Heavy duty sanding, best for flattening surfaces or dimensioning					
Medium	Blue	Scruffing, 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



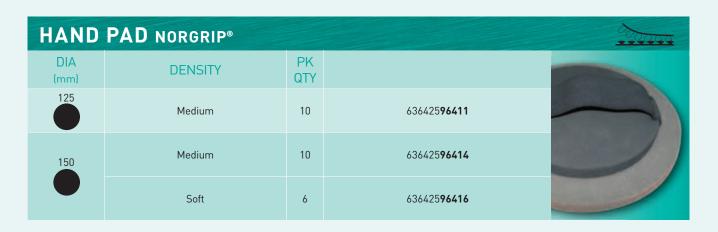


BACK-	UP PADS	NORGRIP®		
DIA (mm)	DENSITY	ATTACHMENT	PK QTY	
76	Medium	5/16	6	699573 <b>96544</b>
	Medium	M6	6	699573 <b>50736</b>
115	Medium	M14	3	699573 <b>50743</b>
125	Medium	5/16	3	699573 <b>50739</b>
125	Medium	M14	3	699573 <b>50744</b>
150	Medium	M14	3	636425 <b>67812</b>
150	Medium	5/16 & M8	3	636425 <b>84885</b>
150	Hard	5/16 & M8	3	636425 <b>84830</b>
8	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

BACK-	UP PADS	NORGRIP®	DUO	Suo 
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





## **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



CONV	ERS	<u>&gt;0000</u> → <u>&gt;0000</u>	
DIA (mm)	PK QTY	NORGRIP® TO NORGRIP® DUO	
76	12	636425 <b>67847</b>	
150	12	636425 <b>67842</b>	
150	12	636425 <b>67848</b>	
150	12	636425 <b>67850</b>	

# SPEC CHECK

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

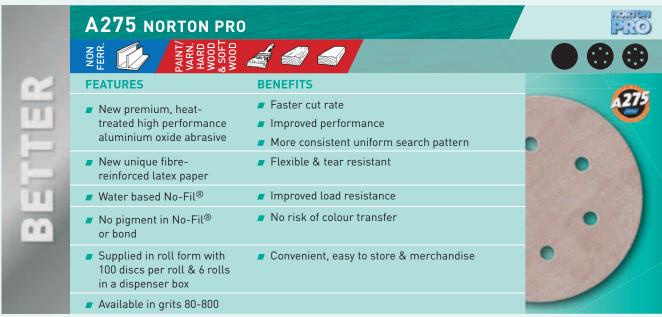


Norton Premium quality self-adhesive discs can be securely fixed onto suitable back-up pads. The Norton Pro A275 self-adhesive discs are supplied on convenient dispenser rolls of 100 discs.

#### **APPLICATIONS & MARKETS**

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





## **SPEC CHECK**

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

636425**42772** 









SELF-	SELF-ADHESIVE DISCS								
			NORTON PRO	BLACKICE					
DIA	ODIT	PK	BET	TER					
(mm)	GRII		A275	T402					
38	1500	400		636425 <b>34470</b>					
	2000	400		699573 <b>60371</b>					
	2500	400		636425 <b>61155</b>					
	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>						
125	220	6x100	662611 <b>31459</b>						
	240		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>						
	80	6x100	662611 <b>31498</b>						
	100	6x100	662611 <b>31497</b>						
105	120	6x100	662611 <b>31496</b>						
125	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>						

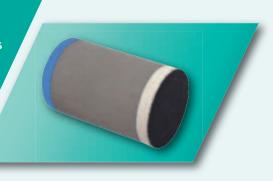
**Dimensions Key:** DIA = Diameter

SELF	ADH	ESIV	E DISCS (CONTINUE	D)
			NORTON PRO	BLACKİCE
DIA	ODIT	PK	ВЕТ	TER
(mm)	GRIT	QTY	A275	T402
	320	6x100	662611 <b>31490</b>	
125	400	6x100	662611 <b>31488</b>	
	500	6x100	662611 <b>31487</b>	
•	600	6x100	662611 <b>31486</b>	
	800	6x100	662611 <b>31485</b>	
	80	6x100	662611 <b>31481</b>	
	100	6x100	662611 <b>31480</b>	
	120	6x100	662611 <b>31479</b>	
	150	6x100	662611 <b>31478</b>	
	180	6x100	662611 <b>31477</b>	
150	220	6x100	662611 <b>31476</b>	
	240	6x100	662611 <b>31475</b>	
	280	6x100	662611 <b>31474</b>	
	320	6x100	662611 <b>31473</b>	
	400	6x100	662611 <b>31471</b>	
	500	6x100	662611 <b>31470</b>	
	600	6x100	662611 <b>31469</b>	
	800	6x100	662611 <b>31468</b>	
	80	6x100	662611 <b>31515</b>	
	100	6x100	662611 <b>31514</b>	
	120	6x100	662611 <b>31513</b>	
	150	6x100	662611 <b>31512</b>	
	180	6x100	662611 <b>31511</b>	
150	220	6x100	662611 <b>31510</b>	
<b>A</b>	240	6x100	662611 <b>31509</b>	
•	280	6x100	662611 <b>31508</b>	
	320	6x100	662611 <b>31507</b>	
	400	6x100	662611 <b>31505</b>	
	500	6x100	662611 <b>31504</b>	
	600	6x100	662611 <b>31503</b>	
	800	6x100	662611 <b>31502</b>	

# 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 636425**67819** 



**Dimensions Key:** DIA = Diameter





BACK-	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?

- $\blacksquare$  A universal attachment system for both Norgrip  $^{\circledR}$  & 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



BACK-	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>				

CONV	ERS	ION INTERFACES	→ %uo
DIA (mm)	PK QTY	SELF-ADHESIVE TO NORGRIP® DUO	
150	6	636425 <b>67849</b>	
150	6	636425 <b>67851</b>	

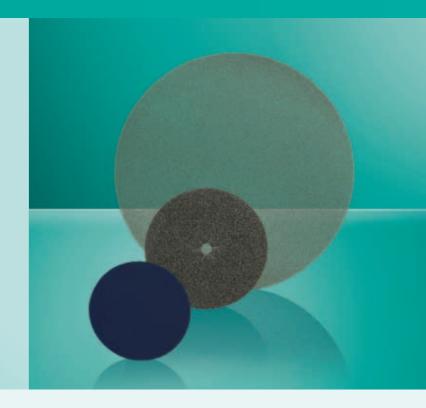
## SPEC CHECK

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

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











PLAIN	DIS	CS			
DIM	GRIT	PK	BETTER	GO	OD
DIAxH (mm)	GKII	QTY	H425	Q421	G422
115x22	220	100			636425 <b>51721</b>
	400	100			636425 <b>24135</b>
	600	100			636425 <b>47674</b>
125	220	100			636425 <b>92893</b>
	320	100			636425 <b>92892</b>
	400	100			636425 <b>92891</b>
	36	100	636425 <b>46553</b>		
	40	100	699573 <b>60199</b>		
150x12	50	100	636425 <b>46525</b>		
*	60	100	636425 <b>46527</b>		
	80	100	636425 <b>46529</b>		
	100	100	699573 <b>60218</b>		
	36	100	636425 <b>46551</b>		
	40	100	636425 <b>46533</b>		
185x12	50	100	636425 <b>46535</b>		
	60	100	636425 <b>46537</b>		
*	80	100	636425 <b>46539</b>		
	100	100	636425 <b>46541</b>		
	120	100	636425 <b>46543</b>		
	36	100	636425 <b>46559</b>		
	40	100	636425 <b>46546</b>		
185x22	50	100	636425 <b>46547</b>		
*	60	100	636425 <b>46548</b>		
	80	100	636425 <b>46549</b>		
	100	100	636425 <b>46550</b>		
	60	10		662611 <b>20519</b>	
	80	10		636425 <b>36521</b>	
	100	10		662611 <b>20517</b>	
406	120	10		662611 <b>20516</b>	
	150	10		636425 <b>36524</b>	
	180	10		636425 <b>15105</b>	
	220	10		636425 <b>52254</b>	
	320	10		636425 <b>51671</b>	

# 134 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.

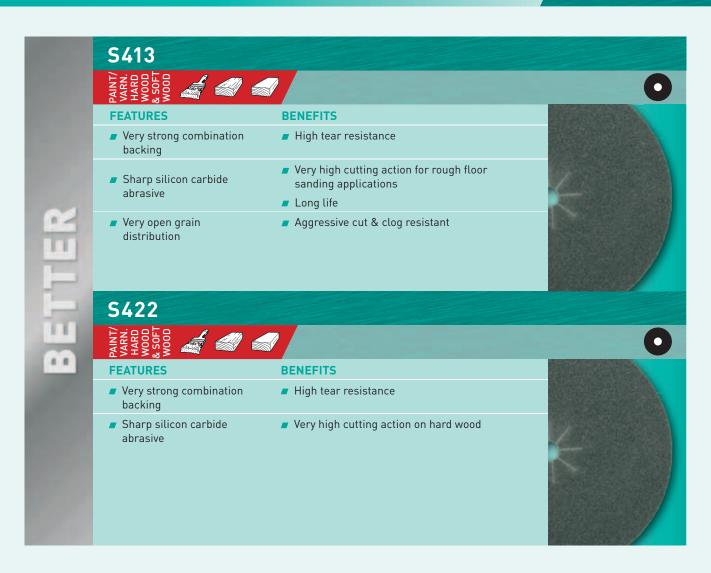
## **APPLICATIONS & MARKETS**

Floor sanding







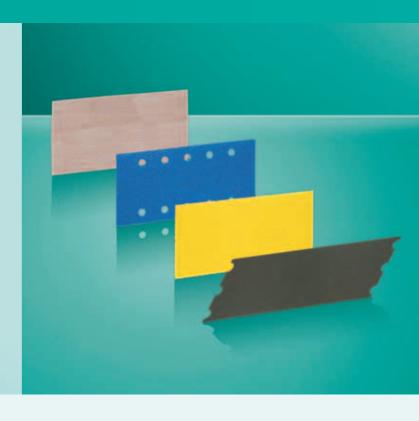


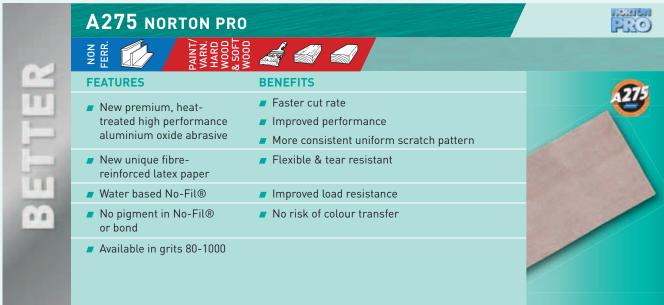
DOUBLE-SIDED DISCS							
			BLUEFIRE (				
DIM	CDIT	PK		BETTER			
DIAxH(mm)	GRIT	QTY	H835	H425	S413	S422	
	16	25			662610 <b>33840</b>		
	20	25			662610 <b>33842</b>		
	24	25			636425 <b>34134</b>		
	30	25			662610 <b>33843</b>		
425x30	36	25		636425 <b>34436</b>		662610 <b>33844</b>	
	40	25		662610 <b>33845</b>			
	50	25		662610 <b>33846</b>			
	60	25	699573 <b>51116</b>	662610 <b>32342</b>			
	80	25	699573 <b>51117</b>	662610 <b>32341</b>			
	100	25	699573 <b>51118</b>	636425 <b>32881</b>			
	120	25	699573 <b>51119</b>	636425 <b>32882</b>			

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













PAPE	R SH	EET	S		
			NORTON PRO		
DIM	ODIT	PK			GOOD
WxL(mm)	GRIT	QTY	A275	H425	G131
	36	50			699573 <b>52150</b>
	40	50			699573 <b>52151</b>
	50	50			699573 <b>52152</b>
93x230	60	50			699573 <b>52153</b>
	80	50			699573 <b>52154</b>
	100	50			699573 <b>52155</b>
• •	120	50			699573 <b>52159</b>
	150	50			699573 <b>52158</b>
	180	50			699573 <b>52157</b>
	220	50			699573 <b>52156</b>
	80	50	636425 <b>88214</b>		
	100	50	636425 <b>88216</b>		
	120	50	636425 <b>88217</b>		
	150	50	636425 <b>88218</b>		
	180	50	636425 <b>88221</b>		
115x280	220	50	636425 <b>88222</b>		
	240	50	636425 <b>88223</b>		
	280	50	636425 <b>88224</b>		
	320	50	636425 <b>88225</b>		
	400	50	636425 <b>88226</b>		
	500	50	636425 <b>88227</b>		
	600	50	636425 <b>88228</b>		
	1000	50	636425 <b>14399</b>		
	36	50			699573 <b>52138</b>
	40	50			699573 <b>52139</b>
	50	50			699573 <b>52137</b>
115x280	60	50			699573 <b>51278</b>
113x280	80	50			699573 <b>52140</b>
	100	50			699573 <b>52141</b>
::	120	50			699573 <b>52146</b>
	150	50			699573 <b>52145</b>
	180	50			699573 <b>52144</b>
	220	50			699573 <b>52142</b>
203x478	40	25		636425 <b>19223</b>	
	60	25		636425 <b>19224</b>	
	80	25		636425 <b>16181</b>	
	100	25		636425 <b>19225</b>	

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





NORG	RIP®	SH	EETS	3000C
			NORTON PRO	BLUEFIRE (
DIM	GRIT	PK	BET	TER
WxL(mm)	GKII	QTY	A275	H835
	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>	
70x125	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>	
	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>
70x198	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>	



IURG	RIP®	SH	EETS (CONTINUED)	3000
			NORTON PRO	BLUEFIRE (
DIM	ODIT	PK	BET	TER
xL(mm)	GRIT	QTY	A275	H835
	40	25		699573 <b>90902</b>
	60	25		699573 <b>90905</b>
	80	50		699573 <b>90909</b>
	80	100	636425 <b>85549</b>	
70x420	100	100	636425 <b>85551</b>	
_	120	50		699573 <b>90910</b>
	120	100	636425 <b>85555</b>	
	150	100	636425 <b>85558</b>	
	180	100	636425 <b>85561</b>	
	220	100	636425 <b>85566</b>	
	240	100	636425 <b>85568</b>	
	280	100	636425 <b>85573</b>	
	320	100	636425 <b>85576</b>	
	360	100	636425 <b>85578</b>	
	400	100	636425 <b>85579</b>	
	500	100	636425 <b>85580</b>	
	40	25		699573 <b>90920</b>
	60	25		699573 <b>90922</b>
	80	50		699573 <b>90923</b>
	80	100	636425 <b>85306</b>	
	100	100	636425 <b>85317</b>	
	120	50		699573 <b>90925</b>
30x133	120	100	636425 <b>85319</b>	
• •	150	100	636425 <b>85322</b>	
	180	100	636425 <b>85323</b>	
	220	100	636425 <b>85326</b>	
	240	100	636425 <b>85328</b>	
	280	100	636425 <b>85329</b>	
	320	100	636425 <b>85331</b>	
	360	100	636425 <b>85337</b>	
	400	100	636425 <b>85345</b>	
	500	100	636425 <b>85349</b>	

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





NORG	RIP®	SH	EETS (CONTINUED)	- Noooc
			NORTON PRO	BLUE <sub>FIRE</sub> (M
DIM	GRIT	PK	BET	TER
WxL(mm)	GRII	QTY	A275	H835
	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>
81x153	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>	
	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>
93x180	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>	

			S (CONTINUED)				
			PRO PRO	BLUE <sub>FIRE</sub> (			
DIM	GRIT	PK	BETTER				
(L(mm)	OIXII	QTY	A275	H835			
	40	25		699573 <b>91019</b>			
	60	25		699573 <b>91020</b>			
	80	50		699573 <b>91023</b>			
	80	100	699573 <b>91028</b>				
	120	50		699573 <b>91025</b>			
0x150	120	100	699573 <b>91030</b>				
OX 150	150	100	699573 <b>91033</b>				
	180	100	699573 <b>91034</b>				
	220	100	699573 <b>91037</b>				
	240	100	636425 <b>76688</b>				
	280	100	699573 <b>51543</b>				
	320	100	699573 <b>51544</b>				
	360	100	699573 <b>51545</b>				
	400	100	699573 <b>51546</b>				
	500	100	699573 <b>51547</b>				
	40	25		699573 <b>90911</b>			
	60	25		699573 <b>90915</b>			
	80	50		699573 <b>90917</b>			
	80	100	636425 <b>85506</b>				
	100	100	636425 <b>85507</b>				
5x230	120	50		699573 <b>90918</b>			
JX230	120	100	636425 <b>58012</b>				
	150	100	636425 <b>85508</b>				
	180	100	636425 <b>58013</b>				
• •	220	100	636425 <b>85511</b>				
	240	100	636425 <b>58014</b>				
	280	100	636425 <b>85517</b>				
	320	100	636425 <b>85533</b>				
	360	100	636425 <b>85536</b>				
	400	100	636425 <b>85538</b>				

PLAIN	PLAIN SANDING BLOCK NORGRIP®					
	DIM WxL(mm)	PK QTY				
	70x125	15	076607 <b>05180</b>	Mostor		

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





PERFO	RATED	SAN	DING BLOCKS NORGRIP®
	DIM WxL(mm)	PK QTY	BETTER
	70x198	1	699573 <b>84977</b>
	70x125	1	076607 <b>40445</b>
	70x400	1	076607 <b>19282</b>
	115x230	1	076607 <b>19281</b>
	81x153	1	076607 <b>19284</b>

## PERFORATED SANDING BLOCK ACCESSORIES PK BETTER QTY FLEXIBLE 4 METRE PIPE 699573**71450**



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













WATE	WATERPROOF SHEETS								
			BLACKICE						
DIM	OIM ODIT		BEST	BETTER					
WxL(mm)	GRIT	QTY	T402/T417	T489					
	60	50		636425 <b>32956</b>					
	80	50	662610 <b>21180</b>	636425 <b>32988</b>					
	100	50	662610 <b>21182</b>	636425 <b>32989</b>					
	120	50	662610 <b>21183</b>	636425 <b>32990</b>					
	150	50	662610 <b>21184</b>	636425 <b>32991</b>					
	180	50	662610 <b>21185</b>	636425 <b>32957</b>					
	220	50	662610 <b>21186</b>	636425 <b>32992</b>					
	240	50	662610 <b>21187</b>	636425 <b>32993</b>					
000 000	280	50	662610 <b>21188</b>	636425 <b>32994</b>					
230x280	320	50	662610 <b>21189</b>	636425 <b>32995</b>					
	360	50	662610 <b>21190</b>	636425 <b>32996</b>					
	400	50	662610 <b>21191</b>	636425 <b>32997</b>					
	500	50	662610 <b>21192</b>	636425 <b>32998</b>					
	600	50	662610 <b>21193</b>	636425 <b>32999</b>					
	800	50	662610 <b>21195</b>	636425 <b>33000</b>					
	1000	50	662610 <b>21196</b>	636425 <b>33001</b>					
	1200	50	662610 <b>21197</b>	636425 <b>33002</b>					
	1500	50	636425 <b>34713</b>						
	2000	50	636425 <b>34719</b>						
	2500	50	636425 <b>65497</b>						





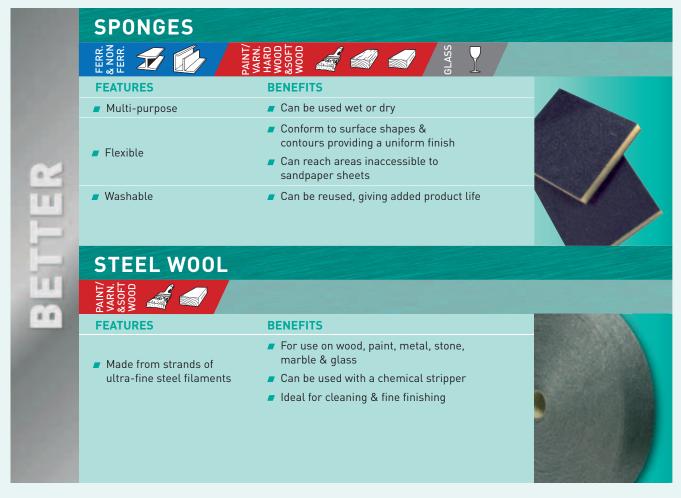
PAPER	R SH	EET	S		
			NORTON PRO		
DIM	GRIT	PK	BETTER	G	00D
WxL(mm)	GRII	QTY	A275	A213	A621
	36	25		636425 <b>38960</b>	
	40	25		636425 <b>36385</b>	
	50	50		636425 <b>36386</b>	
	60	50		636425 <b>36387</b>	
	80	50		699573 <b>60388</b>	
	80	100	636425 <b>58015</b>		
	100	100	636425 <b>85256</b>	699573 <b>60389</b>	
	120	100	636425 <b>58016</b>	699573 <b>60390</b>	
	150	100	636425 <b>86145</b>	699573 <b>60391</b>	
230x280	180	100	636425 <b>58017</b>	636425 <b>31774</b>	662611 <b>01267</b>
	220	100	636425 <b>86139</b>	636425 <b>36411</b>	662611 <b>01265</b>
	240	100	636425 <b>58018</b>	699573 <b>60394</b>	
	280	100	636425 <b>85742</b>		662611 <b>01263</b>
	320	100	636425 <b>86132</b>	699573 <b>60396</b>	
	360	100	636425 <b>86133</b>		
	400	100	636425 <b>86134</b>	636425 <b>39112</b>	
	500	100	636425 <b>86136</b>		662611 <b>01261</b>
	600	100	636425 <b>86137</b>		662611 <b>01260</b>
	800	100	636425 <b>86138</b>		
	1000	100			662611 <b>01259</b>
	1200	100			662611 <b>01258</b>

CLOTH	CLOTH SHEETS								
DIM	GRIT	PK	BET	TER					
WxL(mm)	SIZE	QTY	R222	Q222					
	36	25	636425 <b>31775</b>						
	40	25	636425 <b>31776</b>	699573 <b>60506</b>					
	50	25	636425 <b>31777</b>						
	60	25	636425 <b>31778</b>	636425 <b>36405</b>					
	80	50	636425 <b>31779</b>	636425 <b>36407</b>					
	100	50	636425 <b>31780</b>	636425 <b>36408</b>					
230x280	120	50	636425 <b>31781</b>	636425 <b>36410</b>					
	150	50	636425 <b>31782</b>	636425 <b>36413</b>					
	180	50	636425 <b>31783</b>	636425 <b>31773</b>					
	220	50	636425 <b>31785</b>	636425 <b>63323</b>					
	240	50	636425 <b>31786</b>						
	280	50	636425 <b>31788</b>						
	320	50	636425 <b>31789</b>						
	400	50	636425 <b>31790</b>						
	600	50	636425 <b>34613</b>						

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.

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









SOFT-	SOFT-TOUCH CONTOUR PADS 1 SIDED						
DIM LXWxH(mm)	GRIT	FINISH GENERATED*	PK QTY	BETTER			
	60	180/120	20	636425 <b>50599</b>			
	100	400/320	20	636425 <b>50601</b>			
140x115x6	180	600/500	20	636425 <b>50602</b>			
	220	1000/800	20	636425 <b>50603</b>			
	280	1500/1200	20	636425 <b>50604</b>			

<sup>\*</sup>Generates a finer finish than conventional coated abrasive products

FLEXI	FLEXIBLE FINISHING PADS 2 SIDED							
DIM LXWxH(mm)	GRIT	PK QTY	BETTER					
	60	60	076607 <b>17578</b>					
	60	250	076607 <b>19341</b>					
123x98x12.5	100	60	076607 <b>05187</b>					
123870812,3	100	250	076607 <b>19342</b>					
	180	60	076607 <b>05188</b>					
	180	250	076607 <b>19343</b>					

FLEXI	FLEXIBLE SANDING SPONGES 4 SIDED							
DIM LXWxH(mm)	GRIT	PK QTY	BETTER					
	60	60	076607 <b>17579</b>					
	60	250	076607 <b>19344</b>					
100x66x26	100	60	076607 <b>05189</b>					
100x66x26	100	250	076607 <b>19345</b>					
	180	60	076607 <b>05190</b>					
	180	250	076607 <b>19346</b>					

STEEL	WOOL		
WEIGHT	GRADE	PK QTY	BETTER
1Kg	0000	12	636425 <b>93149</b>
1Kg	000	12	636425 <b>93151</b>
1Kg	00	12	636425 <b>93153</b>
1Kg	0	12	636425 <b>93154</b>
1Kg	1	12	636425 <b>93155</b>
500g	Very Coarse	18	636425 <b>93156</b>

**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.

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









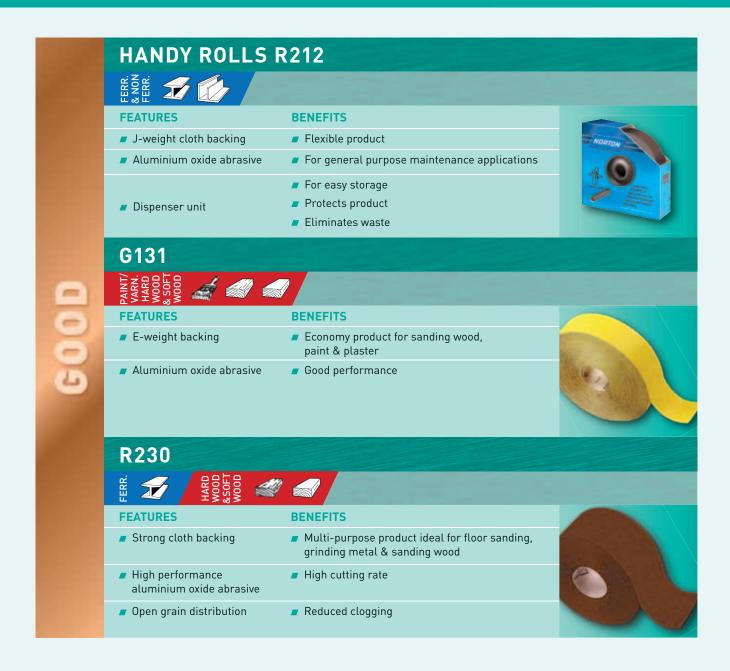
### **A275** NORTON PRO **FEATURES BENEFITS** Tear resistant Can be used wet Fibre-reinforced latex, B-weight paper Suitable for use on primer, paint filler & coating sanding (for automotive & transport applications) Long lasting, fast cut rate Premium heat-treated aluminium oxide abrasive blend Good finish Water based No-Fil® Resists loading & extends life anti-loading third layer Can be used for composite & gel coat sanding (for marine market, etc.) No risk of colour transfer No pigments in No-Fil® or bonding system Wooden furniture preparation **ROTOLO FOAM® ROLLS A275 BENEFITS FEATURES** A275 Norton Pro premium Excellent for fine sanding with high finishing level abrasive paper Special No-Fil® coating Reduces clogging Flexible foam backing Ideal for use on round edges, contours & curves without breaking through the paint surface. Easy gripping Water-resistant Washable 25m long roll of pre-cut sheets ■ Easy to use & economical Packed in innovative Easy to handle, protected against dust dispenser box H425 **FEATURES BENEFITS** Ideal for floor sanding Strong E-weight paper Good tear resistance Silicon carbide abrasive High cut rate

### R817 NORZON® MORZON **FEATURES BENEFITS** Heavy polyester cloth High tear resistance ■ 100% NorZon® abrasive Long lasting cutting edges of NorZon® brings long life in floor sanding applications Open grain distribution Reduces clogging R309 **BENEFITS FEATURES** Super flexible cotton cloth Ideal for contour & profile sanding Premium aluminium oxide Long life in wood & metal applications abrasive Semi-open grain For reduced clogging in wood applications distribution **HANDY ROLLS R222 FEATURES BENEFITS** Ideal for sanding profiled surfaces & round steel parts J-weight cloth backing Can be torn into strips For general purpose maintenance applications Aluminium oxide abrasive Ideal for deburring & derusting metal For easy storage Dispenser unit Protects product Eliminates waste **R222 FEATURES BENEFITS** Flexible product J-weight cotton cloth Aluminium oxide abrasive General purpose product for hand sanding of wood & metal











PAPE	RR	0LL	S			
				NORTON PRO		
DIM		PK	BEST	BET	TER	GOOD
WxL	GRIT	QTY	H231	A275	H425	G131
	40	2			1112	699573 <b>91049</b>
0mmx25M	60	2				699573 <b>91054</b>
	80	2				699573 <b>91059</b>
	120	2		699573 <b>80784</b>		
	150	2		699573 <b>80785</b>		
	180	2		699573 <b>80788</b>		
0ГОМ	220	2		699573 <b>80790</b>		
0mmx50M	240	2		699573 <b>80792</b>		
	280	2		699573 <b>80794</b>		
	320	2		699573 <b>80795</b>		
	400	2		699573 <b>80797</b>		
	40	2				662610 <b>20827</b>
	60	2				662610 <b>20828</b>
3mmx50M	80	2				662610 <b>20829</b>
	100	2				662610 <b>20830</b>
	120	2				662610 <b>20831</b>
	150	2				662610 <b>20860</b>
	40	2				662610 <b>20775</b>
	60	2				662610 <b>20817</b>
	80	2				662610 <b>20818</b>
	100	2		/0//0504400		662610 <b>20819</b>
	120	2		636425 <b>91123</b>		662610 <b>20820</b>
0mmx50M	150	2		699573 <b>91073</b>		662610 <b>20857</b>
	180	2		636425 <b>91124</b>		
	220	2		636425 <b>90924</b>		
	240	2		636425 <b>90927</b>		
	280	2		636425 <b>91648</b>		
	320	2		636425 <b>91649</b>		
	400	2		699573 <b>91077</b>		
	40	2				699573 <b>91083</b>
5mmx25M	60	2				699573 <b>91087</b>
	80	2				699573 <b>91093</b>
	40	2				662610 <b>20832</b>
	60	2				636425 <b>28366</b>
	80	2				662610 <b>20766</b>
	100	2				662610 <b>20833</b>
	120	2		699573 <b>80761</b>		662610 <b>20825</b>
5mmx50M	150	2		699573 <b>80765</b>		636425 <b>28375</b>
JATHA JUN	180	2		699573 <b>80767</b>		662610 <b>20861</b>
	220	2		699573 <b>80769</b>		662610 <b>20849</b>
	240	2		699573 <b>80777</b>		
	280	2		699573 <b>80778</b>		
	320	2		699573 <b>80779</b>		
	400	2		699573 <b>80781</b>		

PAPE	RR	OLL	S (CONTINUED)			
				NORTON PRO		
DIM	ODIT	PK	BEST	BET	TER	GOOD
WxL	GRIT	QTY	H231	A275	H425	G131
	40	2				662610 <b>20822</b>
	50	2				662610 <b>20826</b>
	60	2	636425 <b>39189</b>			662610 <b>20823</b>
100F0M	80	2	636425 <b>39187</b>			662610 <b>20834</b>
120mmx50M	100	2	636425 <b>39185</b>			662610 <b>20821</b>
	120	2	636425 <b>39183</b>			662610 <b>20824</b>
	150	2	636425 <b>39181</b>			662610 <b>20859</b>
	180	2	636425 <b>46049</b>			662610 <b>20865</b>
	60	1	636425 <b>46050</b>			
	80	1	699573 <b>61785</b>			
150mmx50M	100	1	636425 <b>46054</b>			
	120	1	699573 <b>61838</b>			
	150	1	636425 <b>46058</b>			
	36	1			636425 <b>57681</b>	
	40	1			699573 <b>61909</b>	
	50	1			699573 <b>52812</b>	
200mmx50M	60	1	636425 <b>24137</b>		636425 <b>27466</b>	
	80	1	699573 <b>49019</b>		636425 <b>57682</b>	
	100	1	699573 <b>83109</b>		636425 <b>57683</b>	
	120	1	636425 <b>31933</b>		636425 <b>52702</b>	
	36	1			636425 <b>39191</b>	
	40	1			636425 <b>59644</b>	
	50	1			636425 <b>39194</b>	
254mmx50M	60	1	636425 <b>48181</b>		636425 <b>34759</b>	
25411111X5UM	80	1	636425 <b>48182</b>		636425 <b>39198</b>	
	100	1	636425 <b>51354</b>		636425 <b>39200</b>	
	120	1	636425 <b>51287</b>		636425 <b>39203</b>	
	150	1	636425 <b>48226</b>			



NOR	NORGRIP® ROLLS								
			NORTON PRO						
DIM	GRIT	PK	BETTER						
WxL	GKII	QTY	A275						
	120	2	699573 <b>91149</b>						
	150	2	699573 <b>91151</b>						
	180	2	699573 <b>91152</b>						
75mmx25M	220	2	699573 <b>91153</b>						
/ JIIIIIXZJIVI	240	2	699573 <b>91155</b>						
	280	2	699573 <b>91156</b>						
	320	2	699573 <b>91157</b>						
	400	2	699573 <b>91159</b>						
	120	2	699573 <b>91218</b>						
	150	2	699573 <b>91219</b>						
	180	2	699573 <b>91220</b>						
115mmx25M	220	2	699573 <b>91221</b>						
I I DMMXZ DMI	240	2	699573 <b>91222</b>						
	280	2	699573 <b>91223</b>						
	320	2	699573 <b>91224</b>						
	400	2	699573 <b>91225</b>						

CLOT	ΗR	OLL	S				
			NORZON				
DIM	ODIT	PK		BET	TER		GOOD
WxL	GRIT	QTY	R817	R309	R222	Q222	R230
	40	5			636425 <b>12909</b>		
	60	5			636425 <b>40086</b>		
	80	5			636425 <b>39135</b>		
	100	5			636425 <b>39136</b>		
	120	5			636425 <b>59727</b>		
50mmx50M	150	5			636425 <b>39208</b>		
	180	5			636425 <b>39137</b>		
	220	5			636425 <b>12916</b>		
	240	5			636425 <b>12917</b>		
	320	5			636425 <b>12918</b>		
	400	5			636425 <b>12919</b>		
	36	1			636425 <b>36826</b>		
	40	1			636425 <b>36559</b>		
	50	1			636425 <b>40090</b>		
	60	1		699573 <b>85334</b>	636425 <b>60979</b>		
	80	1		636425 <b>55261</b>	636425 <b>31852</b>	636425 <b>46066</b>	
100mmx50M	100	1		699573 <b>85335</b>	636425 <b>31854</b>	636425 <b>46067</b>	
IMOCXIIIIIOOII	120	1		699573 <b>85336</b>	636425 <b>31855</b>	636425 <b>46068</b>	
	150	1		699573 <b>84617</b>	636425 <b>45861</b>	636425 <b>46069</b>	
	180	1		699573 <b>85337</b>	636425 <b>31856</b>		
	240	1			636425 <b>31857</b>		
	320	1			636425 <b>45865</b>		
	400	1			636425 <b>45867</b>		
	60	1				636425 <b>36712</b>	
	80	1				636425 <b>36713</b>	
	100	1				636425 <b>46337</b>	
118mmx50M	120	1				636425 <b>46338</b>	
	150	1				636425 <b>46339</b>	
	180	1				636425 <b>39178</b>	
	220	1				636425 <b>39207</b>	
	60	1		699573 <b>85339</b>			
	80	1		636425 <b>55659</b>			
	100	1		699573 <b>85340</b>			
120mmx50M	120	1		636425 <b>55601</b>			
	150	1		699573 <b>85341</b>			
	180	1		699573 <b>88153</b>			





CLOT	CLOTH ROLLS (CONTINUED)								
			NORZON						
DIM	ODIT	PK		BET	TTER		GOOD		
WxL	GRIT	QTY	R817	R309	R222	Q222	R230		
	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>		
200mmx50M	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>		
	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>57004</b>		
254mmx50M	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>		
	50	1			636425 <b>39141</b>				
	60	1			636425 <b>39142</b>				
	80	1			636425 <b>39143</b>				
430mmx50M	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



HAND	DY R	OLL	S	
DIM		PK	BETTER	GOOD
WxL	GRIT	QTY	R222	R212
	40	1	636425 <b>31849</b>	
	50	1	636425 <b>31850</b>	
	60	1	636425 <b>31823</b>	699573 <b>51243</b>
	80	1	636425 <b>31820</b>	699573 <b>51244</b>
	100	1	636425 <b>31815</b>	699573 <b>51246</b>
OEmama v OEM	120	1	636425 <b>31811</b>	699573 <b>51247</b>
25mmx25M	150	1	636425 <b>31808</b>	699573 <b>51248</b>
	180	1	636425 <b>31805</b>	699573 <b>51249</b>
	220	1	636425 <b>31802</b>	699573 <b>51250</b>
	240	1	636425 <b>31799</b>	699573 <b>51251</b>
	280	1	636425 <b>40084</b>	
	320	1	636425 <b>31796</b>	699573 <b>51252</b>
	400	1	636425 <b>31793</b>	699573 <b>51253</b>
	600	1	636425 <b>60206</b>	
	36	1	636425 <b>36432</b>	
	40	1	636425 <b>31828</b>	
	50	1	636425 <b>31826</b>	
	60	1	636425 <b>31824</b>	699573 <b>50654</b>
	80	1	636425 <b>31821</b>	699573 <b>50657</b>
	100	1	636425 <b>31817</b>	699573 <b>50658</b>
38mmx25M	120	1	636425 <b>31812</b>	699573 <b>50659</b>
	150	1	636425 <b>31809</b>	699573 <b>50660</b>
•	180	1	636425 <b>31806</b>	699573 <b>50661</b>
	220	1	636425 <b>31803</b>	699573 <b>50662</b>
	240	1	636425 <b>31800</b>	699573 <b>50663</b>
	280	1	636425	/00FF0 <b>=0</b> ///
	320	1	636425 <b>31797</b>	699573 <b>50664</b>
	400	1	636425 <b>31794</b>	699573 <b>50665</b>
	600 36	1	636425 <b>39150</b> 636425 <b>36433</b>	
	40	1	636425 <b>31829</b>	
	50	1	636425 <b>31827</b>	
	60	1	636425 <b>31825</b>	69957 <b>351254</b>
	80	1	636425 <b>34758</b>	69957 <b>351255</b>
	100	1	636425 <b>31818</b>	69957 <b>351256</b>
50mmx25M	120	1	636425 <b>31814</b>	69957 <b>351259</b>
	150	1	636425 <b>31810</b>	69957 <b>351260</b>
	180	1	636425 <b>31807</b>	69957 <b>351265</b>
	220	1	636425 <b>31804</b>	69957 <b>351266</b>
	240	1	636425 <b>31801</b>	69957 <b>351267</b>
	280	1	636425 <b>36426</b>	
	320	1	636425 <b>31798</b>	69957 <b>351270</b>
	400	1	636425 <b>31795</b>	69957 <b>351272</b>
	600	1	636425 <b>34757</b>	





PRODUCT SELECTION						
APPLICATION	GRIT	COLOUR				
ROTOLO® FOAM ROLLS						
	120	Apple Green				
Sanding of body filler	150	Orange				
	180	Purple				
Conding of finishing filler	220	Red				
Sanding of finishing filler	240	Electric Blue				
Conding establishers & primer	280	Grey				
Sanding cataphoretic coats & primer	320	Salmon				
	360	Pink				
Conding polymethons primes	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				

ROTO	ROTOLO® FOAM ROLLS							
				NORTON PRO				
DIM	GRIT	PK	COLOUR	BETTER				
WxL	GRII	QTY	COLOUR	A275				
	120	2		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>				
115mmx25M	280	2	Grey	636425 <b>57604</b>				
TI SITIITIX Z SIVI	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>				

COME	3IN/	ATIO	N ROLLS				
DIM	ODIT	- PK	BETTER				
WxL	GRIT	QTY	S413	S422			
	16	1	636425 <b>12552</b>				
	20	1	699573 <b>52814</b>				
	24	1	636425 <b>12551</b>	636425 <b>39280</b>			
	30	1	636425 <b>39278</b>	636425 <b>39283</b>			
203mmx50M	36	1	636425 <b>13423</b>	636425 <b>39286</b>			
200111111111111111111111111111111111111	40	1		636425 <b>39289</b>			
	50	1		636425 <b>39292</b>			
	60	1		636425 <b>39295</b>			
	80	1		636425 <b>39298</b>			
	100	1		636425 <b>39300</b>			
	20	1	636425 <b>46061</b>				
	24	1	636425 <b>46062</b>	636425 <b>51621</b>			
	30	1	636425 <b>46064</b>	636425 <b>52435</b>			
	36	1	636425 <b>13425</b>	636425 <b>52436</b>			
254mmx50M	40	1		636425 <b>52603</b>			
	60	1		636425 <b>45975</b>			
	80	1		699573 <b>91160</b>			
	100	1		636425 <b>47622</b>			
	120	1		699573 <b>91161</b>			

FILM ROLLS					
DIM		PK	BEST		
WxL		QTY	Q132		
	60	1	699573 <b>97708</b>		
100 5014	40	1	699573 <b>97701</b>		
100mmx50M	30	1	699573 <b>97711</b>		
	15	1	699573 <b>97693</b>		

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







NOTES		
-		

# 164 FILE BELTS

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

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













FILE BELTS						
			SG	NORZON		
DIM WxL(mm)	GRIT	PK QTY	INNOVATION BEST	BETTER	GC R230	00D
	40	50	R929	<b>R822</b> 636425 <b>48975</b>	R230	R427
	60	50		636425 <b>23079</b>		
10x330	80	50		699573 <b>36537</b>		
	120	50		636425 <b>46799</b>		
	40	50		000420 <b>40171</b>	636425 <b>39671</b>	
	60	50			636425 <b>39672</b>	
13x454	80	50			636425 <b>53323</b>	
	120	50			636425 <b>53324</b>	
	40	50	699573 <b>50639</b>	699573 <b>53159</b>		
	60	50	699573 <b>50640</b>	636425 <b>39824</b>		
13x457 80	80	50	699573 <b>50642</b>	636425 <b>39833</b>		
	120	50	699573 <b>50643</b>	636425 <b>39840</b>		
	60	50	699573 <b>50646</b>	636425 <b>39830</b>		
13x610	80	50	699573 <b>50647</b>	636425 <b>39838</b>		
	120	50	699573 <b>50648</b>	636425 <b>39845</b>		
	40	50		636425 <b>52139</b>		
15 000	60	50		636425 <b>12882</b>		
15x330	80	50		636425 <b>52140</b>		
	120	50		636425 <b>08195</b>		
	40	50	699573 <b>50650</b>	636425 <b>08505</b>		
20/00	60	50	699573 <b>50651</b>	636425 <b>52708</b>		
20x480	80	50	699573 <b>50652</b>	636425 <b>39683</b>		
	120	50	699573 <b>50653</b>	636425 <b>52710</b>		
	60	50		636425 <b>51962</b>		
20x520	80	50		636425 <b>39684</b>		
	120	50		636425 <b>47831</b>		
	60	20		636425 <b>38963</b>		636425 <b>38954</b>
30x533	80	20		636425 <b>38964</b>		
00,000	120	20		636425 <b>14027</b>		636425 <b>38955</b>
	180	20				636425 <b>38957</b>



NOTES	

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.

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











PORTABLE BELTS						
DIM	ODIT	PK	BET	TER	G0	OD
WxL(mm)	GRIT	QTY	R82A	W445	R427	R230
	40	20				636425 <b>38877</b>
75×457	60	20				636425 <b>39426</b>
/3X43/	80	20				636425 <b>39422</b>
	120	20				636425 <b>39415</b>
	40	20				636425 <b>46289</b>
	50	20				636425 <b>46278</b>
75x533	60	20				636425 <b>46257</b>
70000	80	20				636425 <b>34248</b>
	100	20				636425 <b>46273</b>
	120	20				636425 <b>30701</b>
	60	20			636425 <b>39437</b>	
	120	20			636425 <b>39434</b>	
75x604	180	20			636425 <b>45905</b>	
	320	20			636425 <b>39433</b>	
	CORK	20		636425 <b>39439</b>		

PORTABLE BELTS (CONTINUED)						
DIM	CDIT	PK	BETTE	R	GC	OOD
WxL(mm)	GRIT	QTY	R82A	W445	R427	R230
	40	20				636425 <b>46472</b>
	50	20				636425 <b>53063</b>
60	20				636425 <b>46473</b>	
75x610	80	20				636425 <b>67329</b>
	100	20				636425 <b>45869</b>
	120	20				636425 <b>46476</b>
	40	20				636425 <b>46291</b>
100.550	60	20				636425 <b>46260</b>
100x552	80	20				636425 <b>46249</b>
	120	20				636425 <b>46234</b>
	40	20				636425 <b>46292</b>
	50	20				636425 <b>46281</b>
100 5/0	60	20				636425 <b>46262</b>
100x560 80 100	20				636425 <b>46250</b>	
	100	20				636425 <b>49847</b>
	120	20				636425 <b>46235</b>
	36	20				636425 <b>29801</b>
	40	20	699573 <b>50514</b>			636425 <b>46295</b>
	50	20				636425 <b>46283</b>
100x610	60	20	699573 <b>50515</b>			636425 <b>60145</b>
	80	20	699573 <b>50516</b>			636425 <b>29798</b>
	100	20				636425 <b>46242</b>
	120	20	699573 <b>50517</b>			636425 <b>29797</b>
	40	20				636425 <b>46457</b>
	50	20				636425 <b>46285</b>
400 /00	60	20				636425 <b>34465</b>
100x620	80	20				636425 <b>29799</b>
	100	20				636425 <b>34770</b>
	120	20				636425 <b>46452</b>
	60	20				636425 <b>45873</b>
100x915	80	20				636425 <b>45875</b>
	120	20				636425 <b>34768</b>
	40	20				636425 <b>30702</b>
	60	20				636425 <b>30700</b>
110x620	80	20				636425 <b>30699</b>
	120	20				636425 <b>46238</b>





NOTES			

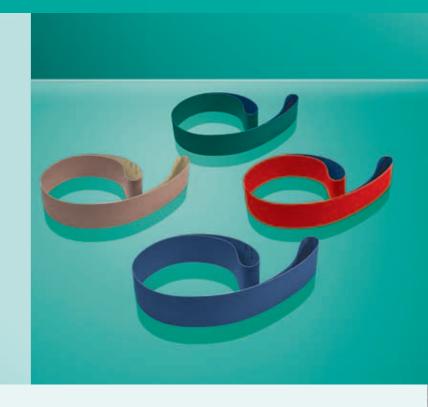
## SPEC CHECK

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



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

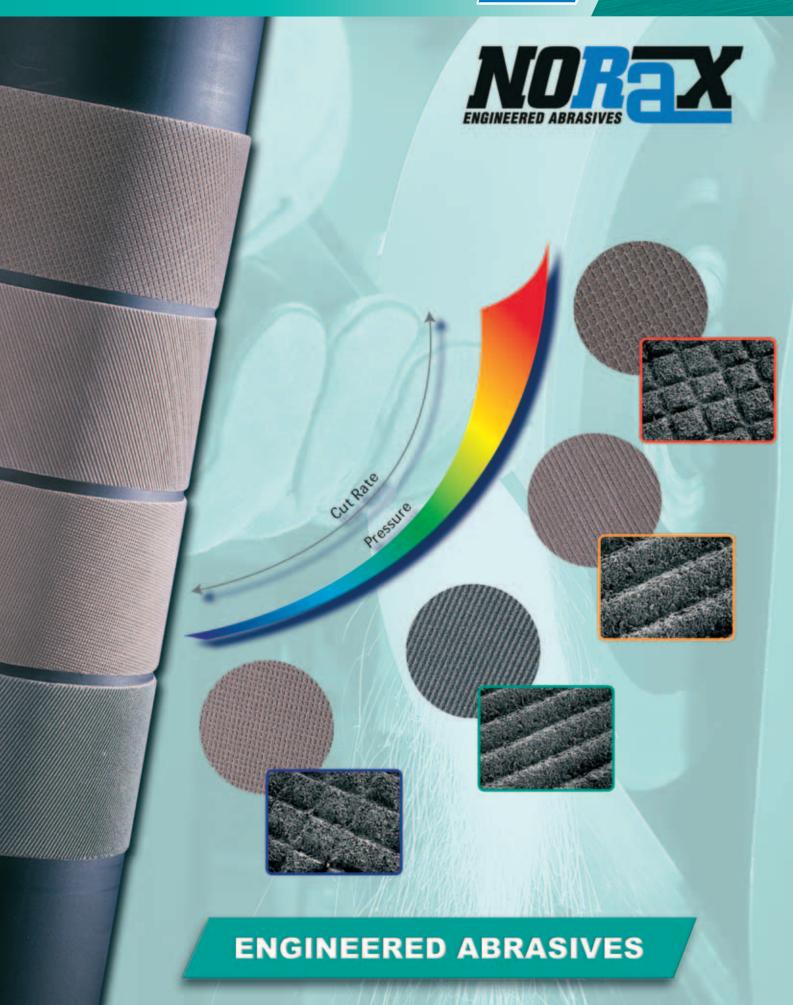
- Grinding & deburring
- Heavy stock removal
- Blending, dimensioning & shaping
- Finishing
- Polishing



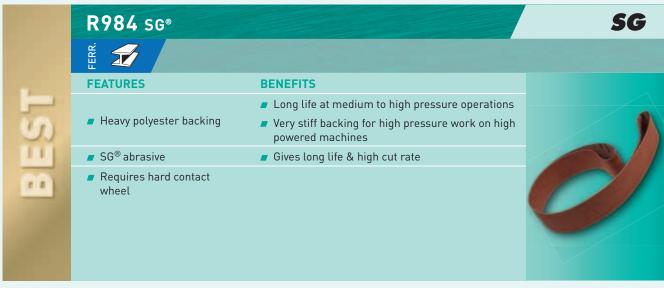


















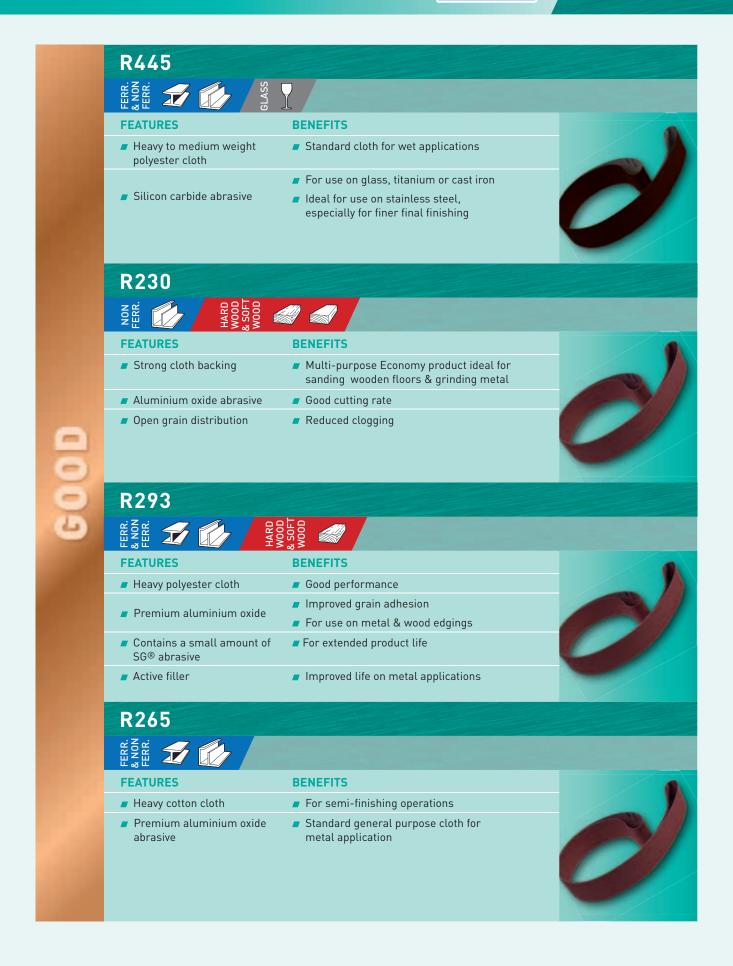




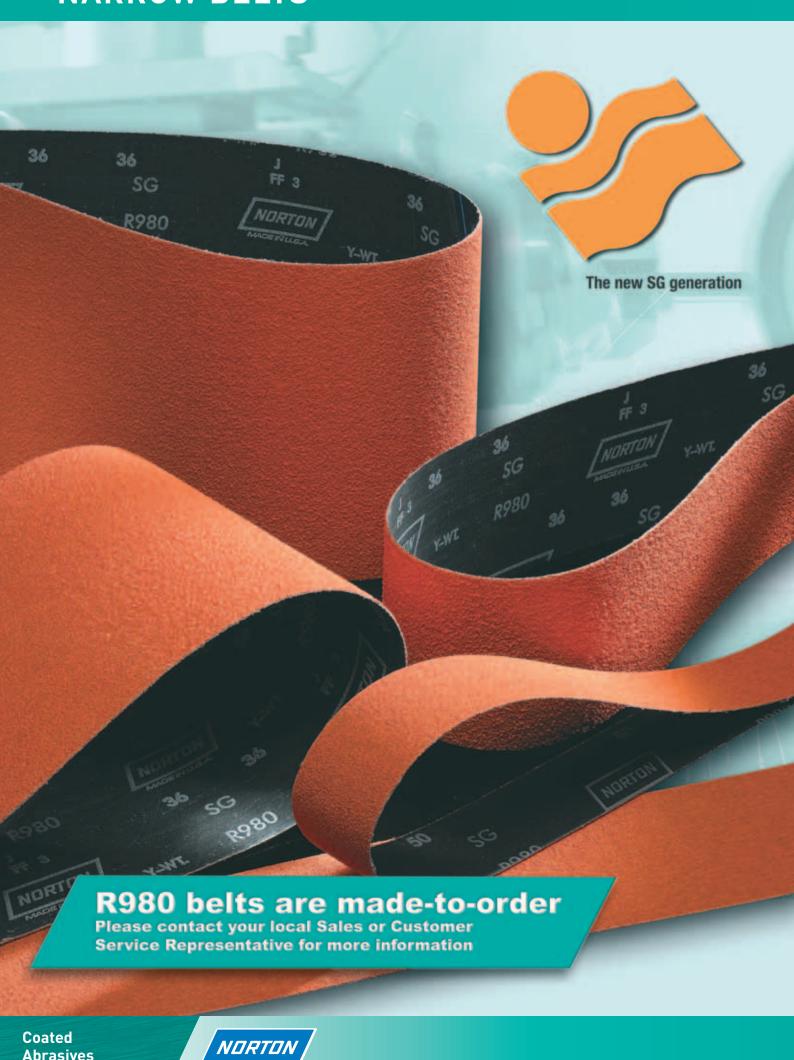








**Abrasives** 

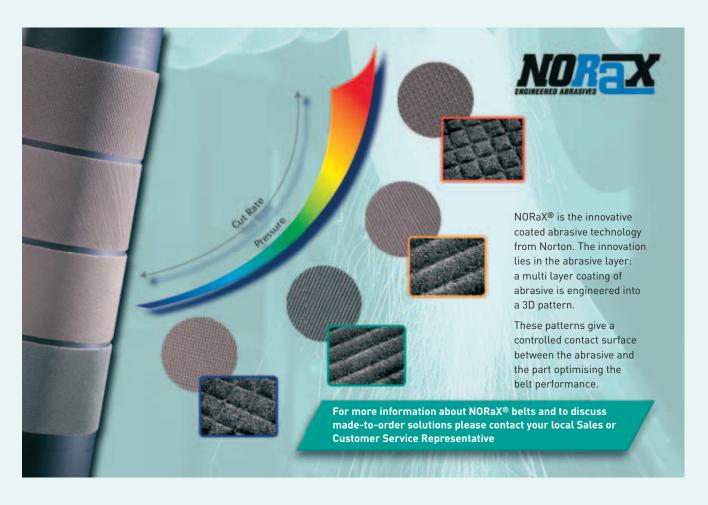




CLOTH BELTS FOR SHOE REPAIR					
			NORZON		
DIM	ODIT	PK	BETTER		
WxL(mm)	GRIT	QTY	R817		
40x1480	24	10	636425 <b>30673</b>		
40×1500	24	10	636425 <b>39381</b>		
40X 1000	80	10	636425 <b>30691</b>		
	24	10	636425 <b>36454</b>		
	60	10	636425 <b>30675</b>		
40x1650	80	10	636425 <b>30677</b>		
	100	10	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									
			NOR <u>ax</u>						
DIM WxL(mm)	GRIT	PK QTY	INNOVATION BEST	BETTER	GOOD				
100x3350	60	10	U366	W445	<b>R445</b> 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>						

CLOTH BELTS FOR FLOOR SANDING									
			REDHEAT	NORZON					
DIM WxL(mm)	GRIT	PK QTY	INNOVATION BEST	BETTER	GOOD				
			R955	R817	R230				
200x750	24	5	699573 <b>45034</b>						
	24	10		699573 <b>50608</b>	636425 <b>21182</b>				
	36	5	699573 <b>45033</b>						
	36	10		636425 <b>15116</b>	699573 <b>49006</b>				
	40	5	699573 <b>45032</b>						
	40	10		636425 <b>45940</b>	699573 <b>49007</b>				
	50	5	699573 <b>45031</b>						
	50	10		636425 <b>39652</b>	699573 <b>53999</b>				
	60	5	699573 <b>45030</b>						
	60	10		636425 <b>45918</b>	699573 <b>49010</b>				
	80	5	699573 <b>45029</b>						
	80	10		636425 <b>52057</b>	699573 <b>49014</b>				
	100	5	699573 <b>45028</b>						
	100	10		699573 <b>56000</b>	699573 <b>49394</b>				
	120	10			636425 <b>58814</b>				







CLOT	H BE	LTS	FOR MET	AL					
			SG	NOR <u>ax</u>	SG	NORZON	NORZON		
DIM WxL(mm)	GRIT	PK QTY		ATION ST	BEST		BETTER		GOOE
***		α	R929	U242	R984	R822	R847	R309	R293 & R
	24	10							636425 <b>48</b>
	36	10	699573 <b>50787</b>			636425 <b>46222</b>			636425 <b>46</b>
	40	10	699573 <b>50790</b>			636425 <b>47270</b>			636425 <b>51</b>
	50	10	699573 <b>50792</b>			636425 <b>46218</b>			636425 <b>51</b>
	60	10	699573 <b>50793</b>			636425 <b>46210</b>			636425 <b>46</b>
50x2000	80	10	699573 <b>50794</b>			636425 <b>46212</b>			
	120	10	699573 <b>50795</b>			636425 <b>16010</b>			
	180	10							636425 <b>39</b>
	240	10							636425 <b>39</b>
	X65	10		699573 <b>50546</b>					
	X45	10		699573 <b>50545</b>					
	X30	10		699573 <b>50544</b>					/0//0F
	40	10							636425 <b>40</b>
50x2500	50	10							636425 <b>40</b>
	60 80	10							636425 <b>40</b>
	X65	10		699573 <b>50534</b>					636425 <b>47</b>
	X45	10		699573 <b>50534</b>					
	X30	10		699573 <b>50532</b>					
50x4000	180	10		0770700002				699573 <b>84495</b>	
0004000	240	10						699573 <b>50781</b>	
	320	10						699573 <b>84496</b>	
	400	10						699573 <b>89829</b>	
	36	10	699573 <b>50796</b>		636425 <b>39813</b>	636425 <b>39386</b>	636425 <b>39811</b>		636425 <b>47</b>
	40	10	699573 <b>50797</b>			636425 <b>39388</b>			636425 <b>64</b>
	50	10	699573 <b>50798</b>		636425 <b>39814</b>	636425 <b>38998</b>	636425 <b>51710</b>		636425 <b>48</b>
	60	10	699573 <b>50799</b>			636425 <b>39389</b>	636425 <b>52549</b>		636425 <b>48</b>
	80	10	699573 <b>50800</b>			636425 <b>38999</b>			636425 <b>48</b>
75x2000	120	10	699573 <b>50801</b>			636425 <b>39002</b>			
	X65	10		699573 <b>50543</b>					
	X45	10		699573 <b>50542</b>					
	X30	10		699573 <b>50536</b>					
	180	10							636425 <b>45</b>
	240	10							636425 <b>20</b> 8
	36	10	699573 <b>50882</b>		636425 <b>29802</b>	636425 <b>46092</b>			636425 <b>46</b>
	40	10	699573 <b>50883</b>			636425 <b>46094</b>			636425 <b>46</b>
75x2500	50	10	699573 <b>50884</b>		636425 <b>20891</b>	636425 <b>46095</b>			636425 <b>51</b>
	60	10	699573 <b>50888</b>			636425 <b>46097</b>			636425 <b>51</b>
	80	10	699573 <b>50898</b>			636425 <b>46099</b>			636425 <b>48</b>
	120	10				636425 <b>39026</b>			

\*R265 product

			SG	NORax	SG		NORZON		
				ATION					
DIM	GRIT	PK	ВЕ		BEST		BETTER		GOOD
WxL(mm)		QTY	R929	U242	R984	R822	R847	R309	R293
	36	10				636425 <b>46224</b>			636425 <b>515</b>
FF 0000	50	10				636425 <b>46220</b>			
75x3000	60	10							636425 <b>462</b>
	80	10				636425 <b>39320</b>			
	36	10							636425 <b>513</b>
	40	10							636425 <b>483</b>
	50	10							636425 <b>515</b>
	60	10				636425 <b>46216</b>			636425 <b>483</b>
100x920	80	10				636425 <b>46214</b>			636425 <b>515</b>
	100	10				636425 <b>39383</b>			636425 <b>515</b>
	120	10							636425 <b>515</b>
	150	10							636425 <b>515</b>
	180	10							636425 <b>515</b>
	40	10	699573 <b>50903</b>			636425 <b>47284</b>			636425 <b>218</b>
	50	10	699573 <b>50904</b>			636425 <b>38971</b>			
100x1000	60	10	699573 <b>50905</b>			636425 <b>38973</b>			636425 <b>513</b>
1000 1000	80	10	699573 <b>50906</b>			636425 <b>38975</b>			
	100	10				636425 <b>38977</b>			
	120	10	699573 <b>50907</b>			636425 <b>36388</b>			
	36	10	699573 <b>50802</b>						
	40	10	699573 <b>50804</b>						
100x2000	60	10	699573 <b>50805</b>						
	80	10	699573 <b>50806</b>						
	120	10	699573 <b>50807</b>						
	36	10				636425 <b>47294</b>			636425 <b>481</b>
100x3000	40	10							636425 <b>515</b>
	60	10				636425 <b>39038</b>			636425 <b>484</b>
	36	10	699573 <b>50809</b>			636425 <b>39008</b>			
150,2000	40	10	699573 <b>50812</b>			636425 <b>39010</b>			
150x2000	60	10	699573 <b>50813</b>			636425 <b>39014</b>			
	80	10	699573 <b>50815</b>			636425 <b>39016</b>			

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





PAPER	RBE	LTS	FOR WOOD
DIM		PK	BEST
WxL(mm)	GRIT	QTY	H231
	60	10	636425 <b>39496</b>
400 7000	80	10	636425 <b>39497</b>
120x7000	100	10	636425 <b>39498</b>
	120	10	636425 <b>39499</b>
	60	10	636425 <b>39500</b>
120,7100	80	10	636425 <b>39501</b>
120x7100	100	10	636425 <b>39502</b>
	120	10	636425 <b>39503</b>
	60	10	636425 <b>39543</b>
120x7200	80	10	636425 <b>39544</b>
120X/200	100	10	636425 <b>39545</b>
	120	10	636425 <b>39546</b>
	60	10	636425 <b>39568</b>
120x8000	80	10	636425 <b>39567</b>
12000000	100	10	636425 <b>39566</b>
	120	10	636425 <b>39565</b>
	60	10	636425 <b>39504</b>
150x7000	80	10	636425 <b>39548</b>
13027000	100	10	636425 <b>39549</b>
	120	10	636425 <b>39550</b>
	60	10	636425 <b>46316</b>
150x7100	80	10	636425 <b>39551</b>
1302/100	100	10	636425 <b>39552</b>
	120	10	636425 <b>39553</b>
	60	10	636425 <b>39505</b>
150x7200	80	10	636425 <b>39554</b>
130X7Z00	100	10	636425 <b>39555</b>
	120	10	636425 <b>39556</b>



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

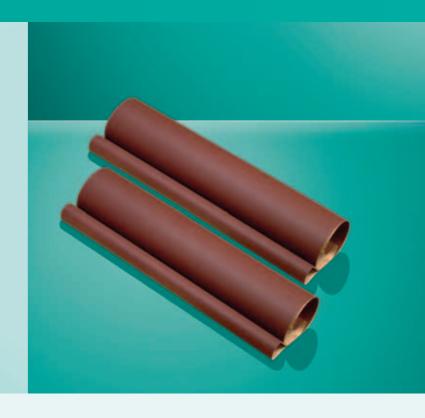
## **APPLICATIONS & MARKETS**

## Metal Working

- Plate dimensioning
- Slag grinding
- Machining & deburring

## **Wood Working**

- Intermediate sanding
- Planing & dimensioning









DIM WxL[mm]   GRIT	WIDE	BEL.	TS	
## William    60	DIM	ODIT	PK	BEST
930x1525  80 10 69957337157  100 10 69957337158  120 10 69957337160  180 10 69957337161  80 10 69957337161  80 10 69957337167  80 10 69957337167  100 10 69957337168  80 10 69957337169  120 10 69957337170  180 10 69957337170  180 10 69957337172  40 10 69957337172  80 10 69957337515  100 10 69957337516  1120x1900  1120x	WxL(mm)	GRII	QTY	H231
930x1525  100 10 69957337158  120 10 69957337159  150 10 69957337160  180 10 69957337161  80 10 69957337166  80 10 69957337167  100 10 69957337168  120 10 69957337169  150 10 69957337170  180 10 69957337172  80 10 69957337172  80 10 6995733715  1120x1900 10 69957337516  1120 10 69957337516  1120 10 69957337516  1120 10 69957337516  1120 10 69957337516  1120 10 69957337516  1120 10 69957337518  180 10 69957337519  60 10 63642568246  80 10 69957337539  1120 10 69957337540  180 10 69957337540  180 10 69957337540  180 10 69957337542  80 10 69957337795  80 10 69957337796  80 10 69957337796  100 10 69957337798  1120 10 69957337798		60	10	699573 <b>37156</b>
930x1525 120 10 69957337159 150 10 69957337160 180 10 69957337161  80 10 69957337166 80 10 69957337167 100 10 69957337168 120 10 69957337169 150 10 69957337170 180 10 69957337172  80 10 69957337172  80 10 6995733715  1120x1900 10 69957337515 100 10 69957337516 1120 10 69957337516 1120x1900 10 69957337517 150 10 69957337518 180 10 69957337518 180 10 69957337519 100 10 69957337539 1120x2150 10 69957337539 1120x2150 10 69957337540 180 10 69957337540 180 10 69957337540 180 10 69957337542 180 10 69957337795 100 10 69957337795 100 10 69957337796 11350x2620 100 10 69957337798 11350x2620 100 10 69957337799		80	10	699573 <b>37157</b>
120 10 69957337169 150 10 69957337160 180 10 69957337161  80 10 69957337166 80 10 69957337167 100 10 69957337168 120 10 69957337169 150 10 69957337170 180 10 69957337172  60 10 69957337172  60 10 69957337515 80 10 69957337515 100 10 69957337516 120 10 69957337516 180 10 69957337517 150 10 69957337518 180 10 69957337518 180 10 69957337519  60 10 69957337519  60 10 69957337538 100 10 69957337539 120 10 69957337540 180 10 69957337540 180 10 69957337540 180 10 69957337542 180 10 6995733799  1350x2620  1350x2620 100 10 69957337796 120 10 69957337797 120 10 69957337797	020,4525	100	10	699573 <b>37158</b>
930x1900  180 10 69957337161  80 10 69957337166  80 10 69957337168  100 10 69957337168  120 10 69957337170  180 10 69957337170  180 10 69957337172  60 10 69957337172  80 10 69957337515  100 10 69957337516  120 10 69957337516  120 10 69957337517  150 10 69957337518  180 10 69957337519  60 10 69957337519  60 10 69957337538  1120x2150 10 69957337539  120 10 69957337540  150 10 69957337541  180 10 69957337542  60 10 6995733795  80 10 6995733795  80 10 6995733795  1350x2620 100 10 69957337796  100 10 69957337796  100 10 69957337797  120 10 69957337798	93UX13Z3	120	10	699573 <b>37159</b>
930x1900    10		150	10	699573 <b>37160</b>
930x1900  100 10 69957337167  120 10 69957337169  150 10 69957337170  180 10 69957337172  60 10 69957337515  80 10 69957337515  100 10 69957337516  1120x1900  1120 10 69957337516  120 10 69957337517  150 10 69957337518  180 10 69957337519  60 10 63642568246  80 10 69957337539  1120x2150  1120 10 69957337540  150 10 69957337540  150 10 69957337542  60 10 69957337795  80 10 69957337795  80 10 69957337796  11350x2620  1150 10 69957337798  1150 10 69957337798		180	10	699573 <b>37161</b>
930x1900  100 10 69957337168  120 10 69957337169  150 10 69957337170  180 10 69957337172  60 10 69957337515  80 10 69957337515  100 10 69957337516  120 10 69957337517  150 10 69957337518  180 10 69957337519  60 10 69957337519  1120x2150  1120x2150  1120 10 69957337538  100 10 69957337539  120 10 69957337540  150 10 69957337540  150 10 69957337540  150 10 69957337540  150 10 69957337540  150 10 69957337540  150 10 69957337795  100 10 69957337795  100 10 69957337795  100 10 69957337797  120 10 69957337798  150 10 69957337798		60	10	699573 <b>37166</b>
120 10 69957337169 150 10 69957337170 180 10 69957337172  80 10 69957337515 80 10 69957337516 1120x1900 1120 10 69957337516 120 10 69957337517 150 10 69957337518 180 10 69957337519 60 10 69957337519 1120x2150 1120x21		80	10	699573 <b>37167</b>
120 10 69957337169 150 10 69957337170 180 10 69957337172  60 10 69957337515 80 10 69957337516 120 10 69957337516 120 10 69957337517 150 10 69957337518 180 10 69957337519  60 10 69957337519  60 10 69957337538  60 10 69957337538  1120x2150 10 69957337540 150 10 69957337540 150 10 69957337541 180 10 69957337542 60 10 69957337542 60 10 69957337795 80 10 69957337795 100 10 69957337796 1100 10 69957337798 1100 10 69957337798 1150 10 69957337798	020,4000	100	10	699573 <b>37168</b>
180 10 69957337172 60 10 69957372835 80 10 69957337515 100 10 69957337516 120 10 69957337517 150 10 69957337519 180 10 69957337519  60 10 69957337519 180 10 69957337538 100 10 69957337538 100 10 69957337539 120 10 69957337540 150 10 69957337541 180 10 69957337542  60 10 69957337542  60 10 69957337795 80 10 69957337796 100 10 69957337797 120 10 69957337798 150 10 69957337798	930X1900	120	10	699573 <b>37169</b>
1120x1900		150	10	699573 <b>37170</b>
1120x1900  100 10 69957337516  120 10 69957337517  150 10 69957337518  180 10 69957337519  60 10 69957337519  60 10 63642568246  80 10 69957337538  100 10 69957337539  120 10 69957337540  150 10 69957337540  180 10 69957337542  80 10 69957337795  80 10 69957337796  100 10 69957337796  100 10 69957337797  120 10 69957337798  150 10 69957337798		180	10	699573 <b>37172</b>
1120x1900		60	10	699573 <b>72835</b>
1120x1900  120 10 69957337517  150 10 69957337518  180 10 69957337519  60 10 63642568246  80 10 69957337538  1120x2150  120 10 69957337539  120 10 69957337540  150 10 69957337541  180 10 69957337542  60 10 69957337795  80 10 69957337796  100 10 69957337796  120 10 69957337797  120 10 69957337798  150 10 69957337799		80	10	699573 <b>37515</b>
120 10 69957337517 150 10 69957337518 180 10 69957337519  60 10 63642568246 80 10 69957337538 100 10 69957337539 120 10 69957337540 150 10 69957337541 180 10 69957337542  60 10 69957337795 80 10 69957337795 100 10 69957337796 1100 10 69957337797 1100 10 69957337797 1100 10 69957337799	11001000	100	10	699573 <b>37516</b>
180 10 69957337519  60 10 63642568246  80 10 69957337538  100 10 69957337539  120 10 69957337540  150 10 69957337541  180 10 69957337542  60 10 69957337795  80 10 69957337796  100 10 69957337796  120 10 69957337797  120 10 69957337798  150 10 69957337798	1120x1900	120	10	699573 <b>37517</b>
1120x2150		150	10	699573 <b>37518</b>
1120x2150		180	10	699573 <b>37519</b>
1120x2150		60	10	636425 <b>68246</b>
1120x2150  120  10  69957337540  150  10  69957337541  180  10  69957337542  60  10  69957337795  80  10  10  10  69957337796  100  10  69957337797  120  10  69957337798  150  10  69957337799		80	10	699573 <b>37538</b>
120 10 699573 <b>37540</b> 150 10 699573 <b>37541</b> 180 10 699573 <b>37542</b> 60 10 699573 <b>37795</b> 80 10 699573 <b>37796</b> 100 10 699573 <b>37797</b> 120 10 699573 <b>37797</b> 150 10 699573 <b>37798</b>	1120,2150	100	10	699573 <b>37539</b>
180 10 699573 <b>37542</b> 60 10 699573 <b>37795</b> 80 10 699573 <b>37796</b> 100 10 699573 <b>37797</b> 120 10 699573 <b>37798</b> 150 10 699573 <b>37799</b>	11ZUXZ15U	120	10	699573 <b>37540</b>
1350x2620		150	10	699573 <b>37541</b>
1350x2620 80 10 699573 <b>37796</b> 100 10 699573 <b>37797</b> 120 10 699573 <b>37798</b> 150 10 699573 <b>37799</b>		180	10	699573 <b>37542</b>
1350x2620 10 10 699573 <b>37797</b> 120 10 699573 <b>37798</b> 150 10 699573 <b>37799</b>		60	10	699573 <b>37795</b>
1350x2620 120 10 699573 <b>37798</b> 150 10 699573 <b>37799</b>		80	10	699573 <b>37796</b>
120 10 699573 <b>37798</b> 150 10 699573 <b>37799</b>	1250-2720	100	10	699573 <b>37797</b>
	1330XZ6ZU	120	10	699573 <b>37798</b>
180 10 699573 <b>37800</b>		150	10	699573 <b>37799</b>
		180	10	699573 <b>37800</b>

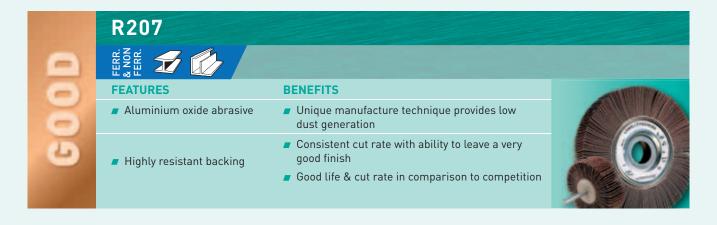
Designed to deliver a consistent finish with a uniform rate of cut, flap wheels have a continual rate of wear which exposes new abrasive. Their construction also makes them ideal for sanding contours and uneven surfaces.

## **APPLICATIONS & MARKETS**

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











# 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

		4011	
FLAN	GE N	10U	NTED
DIM		PK	GOOD
DIAxWxB (mm)	GRIT	QTY	R207
100x25x25	40	1	636425 <b>47168</b>
	50	2	636425 <b>46718</b>
	60	2	636425 <b>63719</b>
	80	2	636425 <b>46728</b>
150x25x25	100	2	636425 <b>46734</b>
	120	2	636425 <b>46740</b>
	150	2	636425 <b>46746</b>
	180	2	636425 <b>46749</b>
	40	1	636425 <b>46719</b>
	50	1	636425 <b>46717</b>
	60	1	636425 <b>46712</b>
450 50 05	80	1	636425 <b>46729</b>
150x50x25	100	1	636425 <b>46735</b>
	120	1	636425 <b>46741</b>
	150	1	636425 <b>46747</b>
	180	1	636425 <b>46750</b>
	40	2	636425 <b>47170</b>
	60	2	636425 <b>46711</b>
	80	2	636425 <b>46730</b>
165x25x32	100	2	636425 <b>46736</b>
	120	2	636425 <b>46742</b>
	150	2	636425 <b>22957</b>
	180	2	636425 <b>19738</b>
	50	1	636425 <b>46716</b>
	60	1	636425 <b>61961</b>
	80	1	636425 <b>46731</b>
165x50x32	120	1	636425 <b>46743</b>
	150	1	636425 <b>45893</b>
	180	1	636425 <b>46751</b>
	320	1	636425 <b>45894</b>

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

FLANGE MOUNTED (CONTINUED)						
DIM DIAxWxB	GRIT	PK	GOOD			
(mm)	·	QTY	R207			
	60	2	636425 <b>47173</b>			
200x25x35	80	2	636425 <b>47175</b>			
200823833	100	2	636425 <b>47174</b>			
	120	2	636425 <b>47176</b>			
	50	1	636425 <b>46715</b>			
	80	1	636425 <b>46732</b>			
200x50x35	100	1	636425 <b>46738</b>			
200/30/33	120	1	636425 <b>46744</b>			
	150	1	636425 <b>46748</b>			
	240	1	636425 <b>46720</b>			
	50	1	636425 <b>46714</b>			
	80	1	636425 <b>46733</b>			
250x50x35	100	1	636425 <b>46739</b>			
200,00,00	120	1	636425 <b>46745</b>			
	150	1	636425 <b>46753</b>			
	240	1	636425 <b>39771</b>			

# 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







SPIND	LE N	<b>40</b> U	INTED	
			NORZON	
DIM		PK	BETTER	GOOD
DIAxWxS (mm)	GRIT	QTY	R822	R207
	80	10		636425 <b>39934</b>
22x10x3	120	10		636425 <b>39935</b>
	150	10		636425 <b>33081</b>
	60	10		636425 <b>45207</b>
	80	10		636425 <b>37371</b>
30x10x6	100	10		636425 <b>13147</b>
30/10/0	120	10		636425 <b>52728</b>
	150	10		636425 <b>12892</b>
	240	10		636425 <b>45208</b>
	60	10		636425 <b>13148</b>
	80	10		636425 <b>61466</b>
	100	10		636425 <b>47339</b>
30x15x6	120	10		636425 <b>51593</b>
	150	10		636425 <b>47340</b>
	240	10		636425 <b>47341</b>
	320	10		636425 <b>13149</b>
	40	10		636425 <b>39937</b>
	60	10		636425 <b>33099</b>
	80	10		636425 <b>33098</b>
40x15x6	100	10		636425 <b>33095</b>
	120	10		636425 <b>33094</b>
	150	10		636425 <b>33092</b>
	240	10		699573 <b>60895</b>
	40	10		636425 <b>39938</b>
	60	10		636425 <b>46771</b>
	80	10		636425 <b>46768</b>
40x20x6	120	10		636425 <b>46760</b>
	150	10		636425 <b>33091</b>
	240	10		636425 <b>39939</b>
	320	10		636425 <b>39940</b>
	40	10		636425 <b>46774</b>
	60	10		636425 <b>31870</b>
	80	10		636425 <b>33097</b>
F0.00.7	100	10		636425 <b>31864</b>
50x20x6	120	10		636425 <b>46759</b>
	150	10		636425 <b>69202</b>
	240	10		636425 <b>46724</b>
	320	10		636425 <b>39942</b>

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

SPIND	LE	MOU	NTED (CONTINUED)	
DIM		PK	BETTER	GOOD
DIAxWxS	GRIT	QTY	R822	R207
(mm)	40	10		636425 <b>39943</b>
	60	10		636425 <b>34251</b>
	80	10		636425 <b>61879</b>
50x30x6	100	10		636425 <b>46765</b>
300000	120	10		636425 <b>31863</b>
	150	10		636425 <b>31860</b>
	320	10		636425 <b>46725</b>
	40	10		636425 <b>46773</b>
	60	10		699573 <b>60901</b>
	80	10		636425 <b>46767</b>
(0.45.7	100	10		636425 <b>46764</b>
60x15x6	120	10		636425 <b>46758</b>
	150	10		699573 <b>60902</b>
	240	10		699573 <b>60903</b>
	320	10		636425 <b>39945</b>
	40	10		636425 <b>36738</b>
	60	10		636425 <b>31869</b>
	80	10		636425 <b>31866</b>
60x20x6	100	10		636425 <b>46763</b>
	120	10		636425 <b>31862</b>
	150	10		636425 <b>59975</b>
	240	10		636425 <b>39770</b>
	40	10	636425 <b>39952</b>	636425 <b>36737</b>
	60	10	636425 <b>36547</b>	636425 <b>31868</b>
	80	10	636425 <b>39953</b>	636425 <b>31865</b>
/0-20-/	100	10		636425 <b>46762</b>
60x30x6	120	10		636425 <b>31861</b>
	150	10		636425 <b>60343</b>
	240	10		636425 <b>46694</b>
	320	10		636425 <b>46727</b>
	40	10	636425 <b>39954</b>	699573 <b>60911</b>
	60	10	636425 <b>39955</b>	636425 <b>31867</b>
	80	10	636425 <b>36548</b>	636425 <b>33096</b>
80x30x6	100	10		699573 <b>64103</b>
	120	10		636425 <b>34250</b>
	150	10		636425 <b>62580</b>
	240	10		636425 <b>45895</b>
	40	10		699573 <b>60914</b>
	60	10		636425 <b>59718</b>
00vE0v/	80	10		699573 <b>60916</b>
80x50x6	120	10		699573 <b>60917</b>
	150	10		636425 <b>39947</b>
	240	10		636425 <b>39948</b>

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





NOTES			
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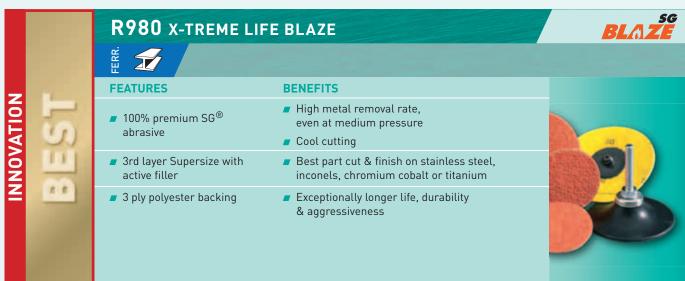
192

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

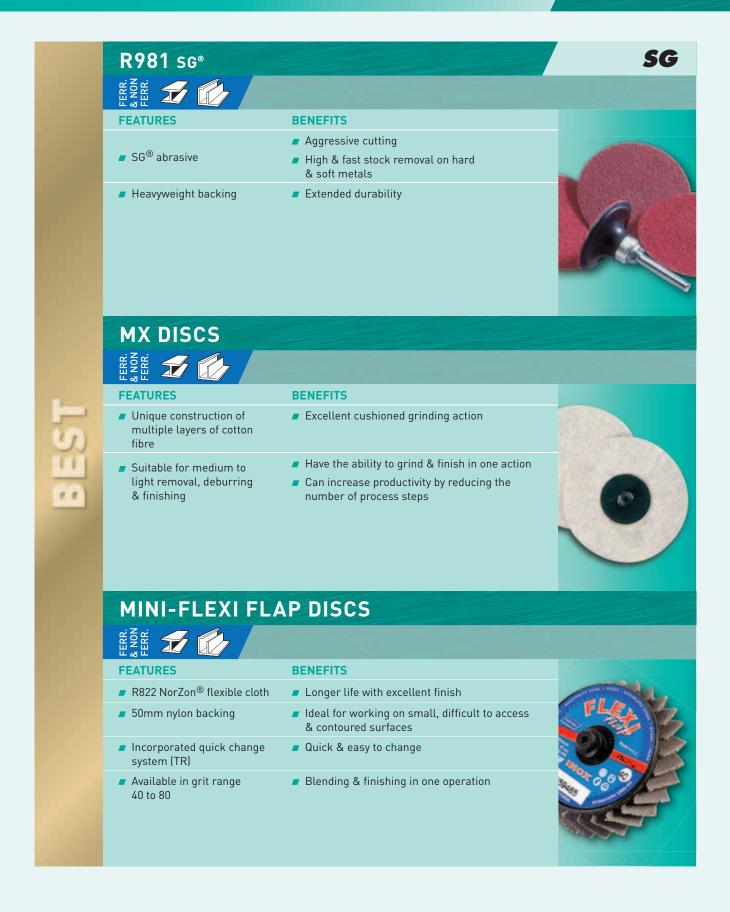
















# SPEC CHECK

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





## **R230** ERR. NON. **FEATURES BENEFITS** High performance Multi-purpose Economy product ideal aluminium oxide for grinding ferrous metals Double layer cloth backing Flexibility for contour grinding Open-coat grain Reduced clogging distribution **RV71 FEATURES BENEFITS** Multi-purpose Economy product ideal High performance aluminium oxide for general purpose applications Durability for edge wear & fray resistance Strong cotton laminated backing Open-coat grain Reduced clogging distribution

# **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)										
			SG BLAZE	GREENLYTE	SG CERAMIC	NORZON PLUS	NORZON	AL	<i>ox</i>	
DIA	GRIT	PK	INNOVATION BEST	BE	ST	BET	TER	GOOD		
(mm)		QTY	R980	F986	R981	PLUS	R822	R230	RV71	
25	60	50					636425 <b>56393</b>	636425 <b>60853</b>		
	36	50			636425 <b>61013</b>	636425 <b>87423</b>	636425 <b>60879</b>	636425 <b>60856</b>	636425 <b>86622</b>	
	50	50				63642587424			636425 <b>86626</b>	
38	60	50			636425 <b>56536</b>	636425 <b>87425</b>	636425 <b>60880</b>	636425 <b>60857</b>	636425 <b>86628</b>	
	80	50			636425 <b>61014</b>	636425 <b>87426</b>			636425 <b>86629</b>	
	120	50				636425 <b>87427</b>		636425 <b>60859</b>	636425 <b>86631</b>	
	180	50							636425 <b>86633</b>	
	36	50	636425 <b>97039</b>	636425 <b>56449</b>	636425 <b>61015</b>	636425 <b>56405</b>	636425 <b>60882</b>	636425 <b>60860</b>	636425 <b>86683</b>	
	50	50	636425 <b>97045</b>	636425 <b>87282</b>		636425 <b>87202</b>			636425 <b>86685</b>	
	60	50	636425 <b>97050</b>	636425 <b>56453</b>	636425 <b>61016</b>	636425 <b>56407</b>	636425 <b>56396</b>	636425 <b>09739</b>	699573 <b>89332</b>	
50	80	50	636425 <b>97052</b>	636425 <b>87285</b>		636425 <b>87207</b>	636425 <b>60884</b>	636425 <b>60862</b>	636425 <b>86687</b>	
50	120	50		636425 <b>87286</b>	662611 <b>37752</b>	636425 <b>87208</b>	636425 <b>60885</b>	636425 <b>71044</b>	636425 <b>86689</b>	
	180	50							636425 <b>86691</b>	
	240	50							636425 <b>86694</b>	
	320	50							636425 <b>86695</b>	
	36	50	636425 <b>97053</b>	636425 <b>56546</b>	636425 <b>56433</b>	636425 <b>87245</b>	636425 <b>60886</b>	636425 <b>56363</b>	636425 <b>86723</b>	
	50	50		636425 <b>87290</b>		636425 <b>87246</b>	699573 <b>89465</b>		636425 <b>86728</b>	
75	60	50	636425 <b>97060</b>	636425 <b>56548</b>	636425 <b>61020</b>	636425 <b>56411</b>	636425 <b>60887</b>	636425 <b>56364</b>	636425 <b>86731</b>	
/5	80	50		636425 <b>87291</b>	636425 <b>61021</b>	636425 <b>87247</b>	636425 <b>60888</b>		636425 <b>86733</b>	
	120	50		636425 <b>87292</b>	636425 <b>60851</b>	636425 <b>87248</b>		636425 <b>56366</b>	636425 <b>86735</b>	
	180	50							636425 <b>86738</b>	

SPEEDLOK® SPECIALIST DISCS TR ATTACHMENT (Type 3 - SL3)							
DIA	GRADE	PK		BEST			
(mm)	GRADE	QTY	MX DISCS	MINI FLEXI-FLAP DISCS	MINI FLAP DISC		
	XCRS	10	636425 <b>88003</b>	662611 <b>80889</b>	662611 <b>80892</b>		
50	COA	10	636425 <b>88004</b>	662611 <b>80890</b>	662611 <b>80893</b>		
50	MED	10	699573 <b>82847</b>	662611 <b>80891</b>	662611 <b>80894</b>		
	FINE	10					
	XCRS	10	636425 <b>88005</b>		636425 <b>27476</b>		
75	COA	10	636425 <b>88007</b>		662611 <b>80904</b>		
	MED	10	699573 <b>82850</b>		636425 <b>27482</b>		
	FINE	10					

**Dimensions Key:** DIA = Diameter





#### SPEEDLOK® DISCS TS ATTACHMENT (Type 2 - SL2) GREEN LYTE SG NORZON PLUS SG BLAZE NORZON ALOX CERAMIC INNOVATION GOOD **BEST BETTER** DIA PK **GRIT** QTY (mm) R980 F986 **R981 PLUS** R822 R230 **RV71 86745 86540 56392 87411 87412 13101 86576 56415 87396 49604 56327 86587 56418 56357 39851 56296 86617 56423 56399 86651 86654 90700 56445 56425 86656 56403 37775** 8n **87204 15917 86675 90702 56427 56455 56360 60307 87062 86697 56428 56545 56408 56361 87275 87214 20884 56362**



#### SPEEDLOK® KIT TR ATTACHMENT (Type 3 - SL3) PK **GRIT/GRADE TYPE** QTY **DENSITY** (mm) **GREENLYTE PLUS F986** SG® CERAMIC R981 NORZON® PLUS NORZON® R822 R230 ALOX RV81 Coarse SURFACE BLENDING Fine **BEARTEX®** Very Fine UNITIZED Fine **STRIPPA** Coarse Medium RUBBER BACK-UP PAD



#### SPEEDLOK® KIT TS ATTACHMENT (Type 2 - SL2) **GRIT/GRADE** PK DIA **TYPE DENSITY** QTY **GREENLYTE PLUS F986** Mini Kit SG® CERAMIC R981 NORZON® PLUS ALOX PLUS RV81 ALOX RV71 Coarse SURFACE BLENDING Medium **BEARTEX®** SPEED-LOK TS - 63642588234 Very Fine RUBBER BACK-UP PAD Medium

Dimensions Key: DIA = Diameter





BAC	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	636425 <b>56628</b>					
38	Medium	1	636425 <b>56629</b>					
Ε0.	Medium	1	076607 <b>17817</b>					
50	Hard	1	636425 <b>86931</b>					
75	Medium	1	636425 <b>56631</b>		636425 <b>87305</b>			
/5	Blue	1		636425 <b>57133</b>				
1/4-M14		1				636425 <b>87997</b>		

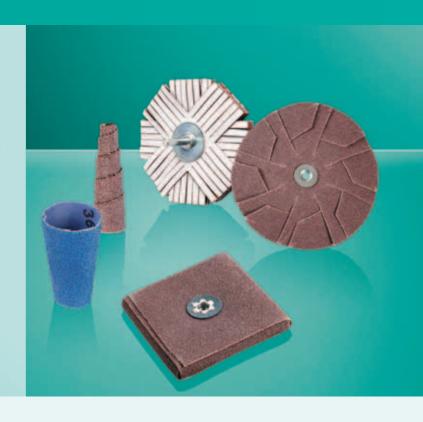
BAC	BACK-UP PADS TS ATTACHMENT (Type 2 - SL2)							
DIA (mm)	DENSITY	PK QTY	RUBBER WITH SPINDLE					
25	Medium	1	076607 <b>18963</b>					
38	Medium	1	076607 <b>07032</b>					
F0	Medium	1	636425 <b>01157</b>					
50	50 Hard	1	636425 <b>86926</b>					
75	Medium	1	076607 <b>07384</b>					
/5	Hard	1	636425 <b>86932</b>					

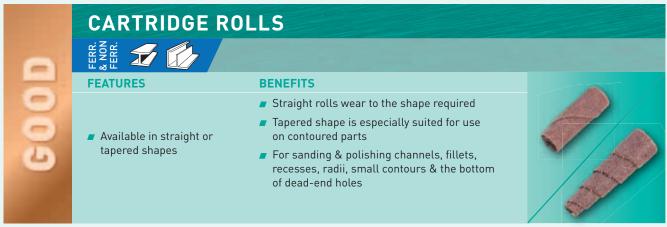


Boasting an outstanding selection of shapes, sizes and grains, the new coated 'Specialties' range can be used in general purpose applications as well as more specific problematic applications. They are ideal for grinding and blending intricately shaped and contoured components, or for high speed, accurate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

## **APPLICATIONS & MARKETS**

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





CARTRIDGE ROLLS STRAIGHT ZPE						
DIM	GRIT	MANDREL	PK	GOOD		
BSxLxB(mm)	OKII	CODE	QTY	R230		
5x19x2,4	120	CRM2	100	636425 <b>87344</b>		
6x25x3,2	80	CRM4	100	636425 <b>56660</b>		
6x25x3,2	120	CRM4	100	636425 <b>56667</b>		
	80	CRM5	100	636425 <b>56674</b>		
6x38x3,2	120	CRM5	100	636425 <b>56677</b>		
	150	CRM5	100	636425 <b>56678</b>		
8x38x3,2	80	CRM5	100	636425 <b>56680</b>		
10050.0	80	CRM4	100	636425 <b>56812</b>		
10x25x3,2	120	CRM4	100	636425 <b>56685</b>		

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





#### KIT9

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

636425**57136** 



CARTRIDGE ROLLS STRAIGHT ZPE (CONTINUED)							
DIM BSxLxB(mm)	GRIT	MANDREL CODE	PK QTY	G00D R230			
	60	CRM5	100	636425 <b>56687</b>			
10x38x3,2	80	CRM5	100	636425 <b>56689</b>			
	120	CRM5	100	636425 <b>56691</b>			
13x25x3,2	80	CRM4	100	636425 <b>56690</b>			
1382383,2	120	CRM4	100	636425 <b>56692</b>			
	60	CRM5	100	662611 <b>81251</b>			
13x38x3,2	80	CRM5	100	636425 <b>56694</b>			
	120	CRM5	100	636425 <b>56696</b>			
16x38x4,8	80	CRM7	100	636425 <b>56697</b>			
19x25x4,8	80	CRM6	100	636425 <b>56698</b>			
1782384,0	120	CRM6	100	636425 <b>56700</b>			
19x50x4,8	60	CRM8	100	699573 <b>86966</b>			
17,50,4,0	80	CRM8	100	636425 <b>56701</b>			

CARTRIDGE ROLLS TAPERED - ZSPI						
DIM	GRIT	MANDREL	PK	GOOD		
BSxLxB(mm)	Ortir	CODE	QTY	R230		
10x25x3,2	60	CRM4	100	636425 <b>56703</b>		
10,00,00	80	CRM5	100	636425 <b>56733</b>		
13x38x3,2	120	CRM5	100	636425 <b>56734</b>		
19x25x4,8	80	CRM6	100	636425 <b>56735</b>		
19x38x3,2	80	CRM5	100	636425 <b>56738</b>		
10,/20,// 0	80	CRM7	100	636425 <b>56739</b>		
19x38x4 <b>,</b> 8	120	CRM7	100	636425 <b>86866</b>		

CARTE	CARTRIDGE ROLLS MANDRELS - ML							
DIM BSxL(mm)	MANDREL CODE	PK QTY						
2,4x25	CRM2	1	636425 <b>87107</b>					
3,2x13	CRM3	1	636425 <b>87120</b>					
3,2x19	CRM4	1	636425 <b>56790</b>					
3,2x25	CRM5	1	636425 <b>56791</b>					
4,8x19	CRM6	1	636425 <b>56789</b>					
4,8x25	CRM7	1	636425 <b>56793</b>					
4,8x38	CRM8	1	636425 <b>56794</b>					



SPIRABANDS ZSB								
			NORZON					
DIM	ODIT	PK	BETTER	GOOD				
DIAxW(mm)	GRIT	QTY	R822	R265				
10 x10	80	100	636425 <b>36539</b>					
10x20	80	100	636425 <b>39862</b>					
1005	50	100	636425 <b>28507</b>					
13x25	80	100	636425 <b>28508</b>					
15x10	80	100	636425 <b>39863</b>					
15x30	50	100	636425 <b>28509</b>					
13x30	80	100	636425 <b>28496</b>					
	36	100	636425 <b>39865</b>					
	50	100	636425 <b>28497</b>					
22x20	60	100	636425 <b>39866</b>					
	80	100	636425 <b>39867</b>					
	150	100		636425 <b>39868</b>				
	36	100	636425 <b>28510</b>					
25x25	50	100	636425 <b>28511</b>					
	80	100	636425 <b>28512</b>					
	36	100	636425 <b>66870</b>					
	50	100	636425 <b>35053</b>					
30x30	60	100	636425 <b>45925</b>					
	80	100	636425 <b>45926</b>					
	150	100		636425 <b>36540</b>				
	36	100	636425 <b>28498</b>					
45x30	50	100	636425 <b>28514</b>					
40,00	60	100	636425 <b>45928</b>					
	80	100	636425 <b>28515</b>					
51x25	80	100	636425 <b>28518</b>					
	36	100	636425 <b>36541</b>					
60x30	50	100	636425 <b>39765</b>					
00,00	60	100	636425 <b>39874</b>					
	80	100	636425 <b>39766</b>					
100x40	80	100	636425 <b>39768</b>					

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





#### SPIRABAND MANDRELS DIM DIAxW(mm) QTY 10x10x6 10 076607**07917** 10x20x6 10 07660717573 13x25x6 10 076607**05185** 10 076607**17629** 15x10x6 10 076607**05182** 15x30x6 19x25x6 10 07660717567 10 636425**62578** 22x20x6 076607**05183** 10 25x25x6 30x20x6 07660717630 10 076607**07918** 30x30x6 10 07660717568 38x25x6 45x30x6 10 076607**05196** 51x25x6 10 076607**05184** 60x30x6 07660717631





# **OVERLAP SLOTTED DISCS**

ERR. NON EERR.

## **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	ATTACHMENT	GRIT	PK	BEST		
(mm)	ATTACTIVILINT	OIXII	QTY	R228/R230		
38		60	10	636425 <b>86870</b>		
30	MM32-4 8 PLY	120	10	636425 <b>86869</b>		
50		60	10	636425 <b>86871</b>		
30		120	10	636425 <b>86886</b>		
75	MM20-4	60	10	636425 <b>86954</b>		
73		120	10	636425 <b>86960</b>		
100		60	10	636425 <b>86981</b>		
100		120	10	636425 <b>86983</b>		

For slotted disc mandrels, please refer to the following page



SQUARE PADS ZSPS							
DIA	ATTACHMENT	CDIT	PK	BEST			
(mm)	ATTACHMENT	GRIT	QTY	R228/R230			
38	MM32-4 8 PLY	60	10	636425 <b>87008</b>			
38	MM32-4 8 PLY	120	10	636425 <b>87010</b>			
50	MM32-4 8 PLY	60	10	636425 <b>87014</b>			
50	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>			

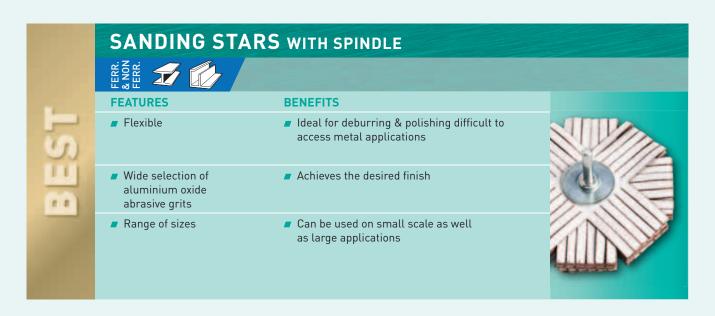
MANDRELS SLOTTED DISCS & SQUARE PADS						
DIA (mm)	ATTACHMENT	PK QTY	MANDREL			
6	MM20-4	1	636425 <b>87142</b>			
6	MM32-4	1	636425 <b>87136</b>			
6	MM48-4	1	636425 <b>87135</b>			



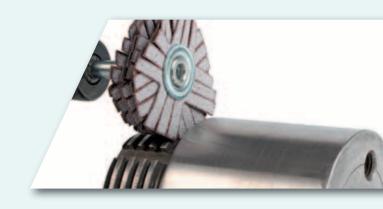
**Dimensions Key:** DIA = Diameter

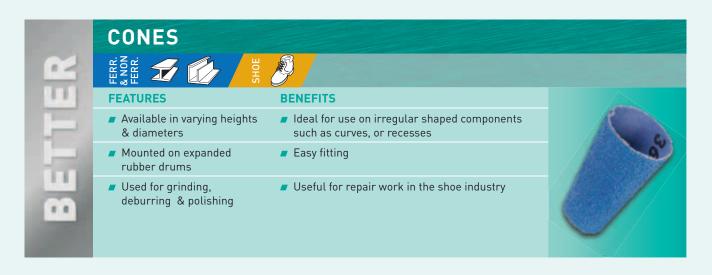






SAND	SANDING STARS WITH SPINDLE							
DIA	GRIT	PK	BEST					
(mm)	GKII	QTY	RV52					
	80	10	636425 <b>87026</b>					
40	120	10	636425 <b>87034</b>					
40	240	10	636425 <b>87036</b>					
	320	10	636425 <b>87037</b>					
	80	10	636425 <b>87038</b>					
60	120	10	636425 <b>87040</b>					
60	240	10	636425 <b>87042</b>					
	320	10	636425 <b>87046</b>					
	80	10	636425 <b>87050</b>					
00	120	10	636425 <b>87064</b>					
80	240	10	636425 <b>87068</b>					
	320	10	636425 <b>87070</b>					
	80	10	636425 <b>87074</b>					
100	120	10	636425 <b>87076</b>					
100	240	10	636425 <b>87077</b>					
	320	10	636425 <b>87093</b>					





CONES zco					
DIM	CDIT	PK	BETTER		
BxLxDG(mm)	GRIT	QTY	R822		
	36	100	662611 <b>76761</b>		
201772	50	100	662611 <b>76657</b>		
20x14x63	80	100	662611 <b>76656</b>		
	120	100	662611 <b>76540</b>		
29x22x30	50	100	636425 <b>13692</b>		
	36	100	636425 <b>20987</b>		
36×22×60	50	100	636425 <b>36572</b>		
30XZZX0U	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 HO	LDERS 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 \*\*BENEFITS \*\*Premium NorZon® grain \*\*Flexible cloth backing \*\*Adapt to contours & improved finish \*\*Angular flap disc construction \*\*Available in grit range 40, 60, 80 \*\*MorZON\* \*\*BENEFITS \*\*Increased flexibility in use

FLEXI DISCS FLD FXSF				
			NORZON	
DIA	CDIT	PK	GOOD	
(mm)	GRIT	QTY	R822	
	40	10	636425 <b>44276</b>	
115	60	10	636425 <b>44277</b>	
	80	10	636425 <b>44278</b>	
	40	10	662611 <b>77415</b>	
127	60	10	662611 <b>77416</b>	
	80	10	662611 <b>77417</b>	



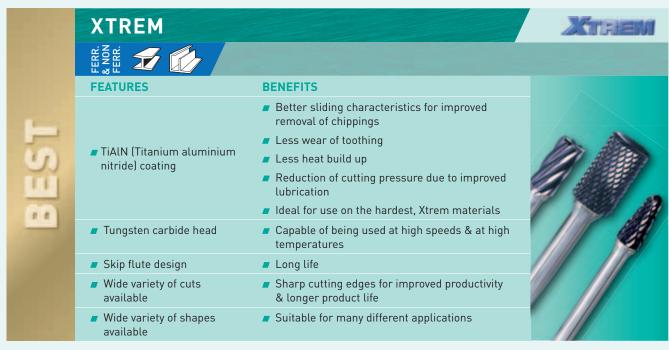
# **TUNGSTEN CARBIDE BURRS**

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





# STANDARD \*\*EXAMPLES\*\* \*\*FEATURES\*\* \*\*Tungsten carbide head\*\* \*\*Capable of being used at high speeds & at high temperatures\*\* \*\*Skip flute design\*\* \*\*Under variety of cuts available\*\* \*\*Wide variety of cuts available\*\* \*\*Sharp cutting edges for improved productivity & longer product life\*\* \*\*Wide variety of shapes available\*\* \*\*Suitable for many different applications available\*\*







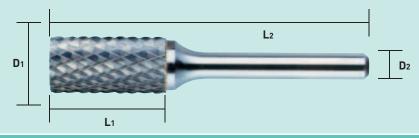
	Mark Com	WEAK 1	DE CO	100000 / UPP 1	W200 (**)	1000//ES
USAGE KEY	3/4		0/1	- 1		
Highly recommended  Recommended	M	2.4	0/2			21
L) Recommended	Market / Jan.	DTECH	ALU	DF*	BC*	MAY ZZALI
CUT STYLE	D DOUBLE CUT	DOUBLE CUT EXTRA	ALUMINIUM SPECIAL	FINE DOUBLE CUT	CHIP BREAKER	S* SIMPL
QUALITIES	Universal 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 applicatio produces scratch fr surface.
XTREM						
Steel						
Hardened steel						
Stainless steel						
Cast iron						
Titanium						
Nickel						
Copper/copper alloys						
Aluminium						
Plastics						
STANDARD						
Steel						
Hardened steel						
Stainless steel						
Cast iron						
Fitanium						
Nickel						
Copper/copper alloys						
Aluminium						
Plastics						

\*Made-to-order

# **PRODUCT SELECTION**



	DIMENSIONS & DESCRIPTION OF THE BURR						
Α	16,0	X	25,0	6x65	DTECH		
Shape	Diameter of the head		Length of the head	Diameter of the shank & overall length of the burr (OL)	Cut style		
	<b>D</b> 1		L <sub>1</sub>	D <sub>2</sub> + L <sub>2</sub>			



#### **RECOMMENDED OPERATING SPEEDS (RPM)** MATERIAL TYPE 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 45000-90000 22500-60000 15000-40000 11000-30000 9000-24000 Casting 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 7000-38000 30000-90000 15000-70000 10000-50000 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**



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.





# **SPEC CHECK**



 $\textbf{Dimensions Key:} \ DIM = Dimensions, \ D^1 = Head \ Diameter, \ L^1 = Head \ Length, \ D^2 = Shank \ Diameter, \ L^2 = Shank \ Length \ Dimensions \ D^2 = Shank \ Diameter, \ L^2 = Shank \ Length \ D^2 = Shank \ D^2 = Sha$ 

# **TUNGSTEN CARBIDE BURRS**

JNGSTEN CARBI	DE ROKK				
				XTREM	
	SUB	DIM	PK	BEST	BETTER
PRODUCT SHAPE	SHAPE	$D^1xL^1xD^2xL^2$ (mm)	QTY	XTREM	STANDARD
	D	3x13x3x38	1		636425 <b>86518</b>
	D	6x19x6x50	1	699573 <b>83214</b>	601576 <b>38141</b>
٨	D	8x19x6x65	1		601576 <b>38143</b>
A CYLINDER	ALU	40.40.4.45	1	699573 <b>83216</b>	601576 <b>38195</b>
	D	10x19x6x65	1	699573 <b>83215</b>	601576 <b>38144</b>
	D	10x25x6x162	1		636425 <b>35764</b>
	ALU	10.05 / 50	1	699573 <b>83220</b>	636425 <b>86517</b>
	D	12x25x6x70	1	699573 <b>83219</b>	076607 <b>07808</b>
	D	16x25x6x70	1		601576 <b>38148</b>
	D	3x13x3x38	1		601576 <b>38140</b>
	D	6x19x6x50	1	636425 <b>95182</b>	636425 <b>86641</b>
	D	8x19x6x65	1		076607 <b>07804</b>
	D	8x19x6x175	1		636425 <b>35757</b>
B CVI INDED WITH END CHT	ALU		1	699573 <b>83228</b>	076607 <b>39845</b>
CYLINDER WITH END CUT	D	10x19x6x65	1	699573 <b>83223</b>	601576 <b>38145</b>
	DTECH		1	699573 <b>83227</b>	076607 <b>39844</b>
	D	12x19x6x65	1	636425 <b>95184</b>	
	ALU		1	699573 <b>83232</b>	636425 <b>86623</b>
	D	12x25x6x70	1	699573 <b>83229</b>	601576 <b>38147</b>
	DTECH		1	699573 <b>83230</b>	601576 <b>38174</b>
	D	16x25x6x70	1		601576 <b>38190</b>
	D	3x13x3x38	1	636425 <b>95185</b>	636425 <b>86710</b>
	D	6x13x6x162	1		636425 <b>35773</b>
	D	6x19x6x50	1	699573 <b>83234</b>	601576 <b>38150</b>
	D	8x19x6x65	1		601576 <b>38151</b>
C BALL NOSED CYLINDER	ALU		1	699573 <b>83239</b>	601576 <b>38182</b>
BALL NOSED CILINDER	D	10x19x6x65	1	699573 <b>83236</b>	601576 <b>38152</b>
	DTECH		1	699573 <b>83238</b>	076607 <b>39841</b>
	D	12x19x6x65	1		601576 <b>38153</b>
	ALU		1	699573 <b>83278</b>	076607 <b>07846</b>
	D	12x25x6x70	1	699573 <b>83241</b>	601576 <b>38154</b>
	DTECH		1	699573 <b>83277</b>	601576 <b>38175</b>
	D	16x25x6x70	1		601576 <b>38191</b>
	D	3x2,5x3x75	1		636425 <b>35794</b>
D	D	3x2,7x3x38	1		636425 <b>86859</b>
BALL	D	6x5x6x150	1		636425 <b>35770</b>
A CONTRACTOR OF THE PROPERTY O	D	6x5,4x6x50	1		601576 <b>38166</b>
	D	8x7,2x6x52	1		601576 <b>38167</b>
	D	10x9x6x53	1	699573 <b>83279</b>	076607 <b>07832</b>
	D	12x10,8x6x55	1	699573 <b>83281</b>	699573 <b>83148</b>

**Dimensions Key:** DIM = Dimensions,  $D^1$  = Head Diameter,  $L^1$  = Head Length,  $D^2$  = Shank Diameter,  $L^2$  = Shank Length





TUNGSTEN CARBIDE BURRS (CONTINUED)						
				XTREM		
PRODUCT	SUB	DIM	PK	BEST	BETTER	
SHAPE	SHAPE	D¹xL¹xD²xL² (mm)	QTY	XTREM	STANDARD	
E	D	3x6x3x38	1		636425 <b>86891</b>	
OVAL	D	6x10x6x50	1		636425 <b>86892</b>	
	D	10x16x6x60	1		601576 <b>38159</b>	
	D	12x22x6x67	1		601576 <b>38162</b>	
	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>	
F PALL NOCED TREE	ALU	10x19x6x65	1	699573 <b>83300</b>	636425 <b>86951</b>	
BALL NOSED TREE	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>	
G	D	3x13x3x38	1		601576 <b>38163</b>	
TREE	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>	
H FLAME	D	8x19x6x65	1		601576 <b>38160</b>	
	D	12x32x6x77	1	699573 <b>83312</b>	636425 <b>87971</b>	
	D	6x16x5x50	1		601576 <b>38156</b>	
	ALU	6x16x6x50	1		636425 <b>87095</b>	
L	D	OKTOKOKJU	1	699573 <b>83313</b>		
BALL NOSED CONE	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	12.03.007.0	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>	
	D	3x11x3x38	1		636425 <b>87134</b>	
M CONE	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>	

# TUNGSTEN CARBIDE BURRS

XTREN	I BURR K	ITS		
				XTREM
KIT	SHAPE	DIM D¹xL¹xD²xL² (mm)	PK QTY	BEST
	В	10x19x6x65	1	
	В	12x25x6x70	1	
	С	10x19x6x65	1	
	С	12x25x6x70	1	
D	L	12x30x6x75	1	699573 <b>85143</b>
В	Е	10x16x6x60	1	077373 <b>63143</b>
	G	10x19x6x65	1	
	G	12x25x6x70	1	
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	
	В	10x19x6x65	1	
	В	12x25x6x70	1	
	С	10x19x6x65	1	
	С	12x25x6x70	1	
DTECH	L	12x30x6x75	1	699573 <b>85141</b>
DILCH	Е	10x16x6x60	1	07/3/303141
	G	10x19x6x65	1	
	G	12x25x6x70	1	
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	
	В	12x25x6x70	1	
	С	12x25x6x70	1	
ALU	L	12x30x6x75	1	699573 <b>85142</b>
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	





STANE	DARD BUI	RR KITS		
		DIM	PK	BETTER
KIT	SHAPE	D¹xL¹xD²xL² (mm)	QTY	STANDARD
	А	3x13x3x38	1	
	В	3x13x3x38	1	
	М	3x11x3x38	1	
	С	3x13x3x38	1	
D	L	3x8x3x38	1	076607 <b>08056</b>
U	Н	3x8x3x38	1	0/000/00030
	Е	3x6x3x38	1	
	G	3x13x3x38	1	
	D	3x2,7x3x39	1	
	F	3x13x3x38	1	
	А	10x19x6x65	1	
	А	12x25x6x70	1	
	С	10x19x6x65	1	
	С	12x25x6x70	1	
DTECH	L	12x30x6x75	1	076607 <b>39870</b>
DILCII	E	10x16x6x60	1	07000737070
	G	10x19x6x65	1	
	G	12x25x6x70	1	
	D	12x10,8x6x55	1	
	F	12x25x6x70	1	



# ADHESIVE PRODUCTS

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	BENEFITS	
	Good adhesion on all surfaces	
Rubber solvent based adhesive	Excellent resistance to paint & thinners	
baseu aunesive	Easy to remove leaving no adhesive residue	
	Conforms to most surfaces	
Saturated paper backing	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	PK	BEST	BETTER	GOOD				
WxL	QTY	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>				

INSUL	INSULATION TAPE							
DIM WxL	PK QTY	COLOUR	BETTER					
15mmx10M	20	Assorted	076607 <b>17713</b>					
TOMIMIXTUM	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>					

## **ADHESIVE PRODUCTS**

ANTI-SLIP TAPE						
DIM	COLOUR	PK	BETTER			
WxL		COLOUR	CULUUK	COLOUR	QTY	NORTH EUROPE
10	BLACK	2	699573 <b>50098</b>	699573 <b>49024</b>		
18mmx3M	CLEAR	2	699573 <b>50100</b>	699573 <b>49551</b>		
2/214	BLACK	1	699573 <b>50097</b>	699573 <b>49023</b>		
36mmx3M	CLEAR	1	699573 <b>50099</b>	699573 <b>49150</b>		
50mmx33M	BLACK	1	699573 <b>49030</b>	699573 <b>49030</b>		

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

### **SPEC CHECK**

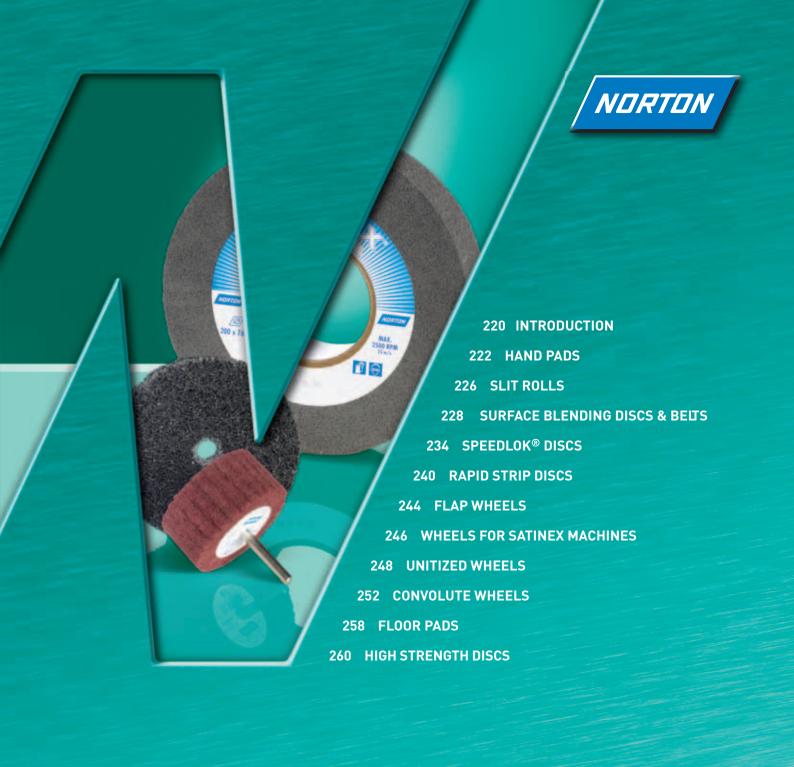
- Clear rolls: for indoor use
- Black rolls: for indoor & outdoor use
- Anti-slip rolls: Applied to floors to help prevent slips & falls. Suitable for use on smooth, slippery surfaces. Not to be used on surfaces that are continuously wet, such as swimming pools; where motorised vehicles operate; where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





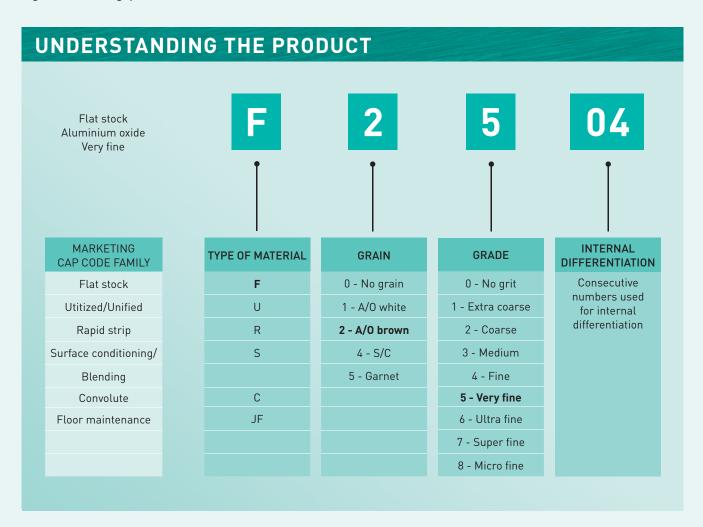
**Dimensions Key:** W = Width, L = Length







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.



#### **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.

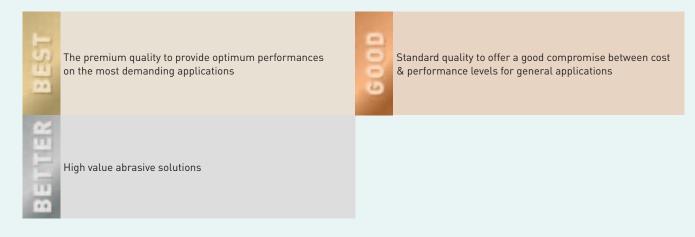
Under identical conditions, 'Hard' density wheels cut faster, last longer and produce finer finishes than medium density wheels. 'Medium' density wheels offer greater conformability and less tendency to load the workface.

#### **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.



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

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



FEATURES	BENEFITS	
Perforations	Perforations allow for smooth, shred free split to create 2 smaller easy to use 115mm x 150mm pads	
▼ Flexible	<ul><li>Conforms to contours of work surface</li><li>&amp; provides a uniform finish</li></ul>	
■ Gentle action	Easily removes burrs without affecting the dimension of the workpiece	
Non-loading	Continual supply of new cutting edges	
Non-rusting	No contamination of the workpiece	
Resilient construction	Long life, waterproof & solvent resistant	
Easy to cut to desired size		
FINISHANDFINE		
FEATURES	BENEFITS	
Ultra fine grade	Ideal for automatic primer keying & keying of clear cut	
Highly flexible	■ For highly sensitive surfaces	-
Perforated	<b>■</b> For clean & easy tearing	1
Supplied in a dispenser box	■ For easy access & storage	







PLA	IN DISCS		
FEATUR	ES	BENEFITS	100 may 2
■ Flexib	le	Conforms to contours of work surface & provides a uniform finish	
<b>■</b> Gentle	e action	Easily removes burrs without affecting the dimension of the workpiece	
■ Non-l	oading	Continual supply of new cutting edges	10000000000000000000000000000000000000
✓ Non-r	usting	No contamination of the workpiece	
Resili	ent construction	Long life, waterproof & solvent resistant	
<b>■</b> Easy t	o cut to desired size		



PROD	UCT	SELECTIO	N	
GRADE	COLOUR	SUBSTRATE & MARKETS	APPLICATION	FEATURES, BENEFITS & ADVANTAGE
HAND PAD	S			
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 finisl achieves with just a few strokes light stock remova & a good finish
Medium	Maroon	Metals	Deburring, rust & coating removal	Strong & open constructio resistant to loading, good lifetime
Very Fine	Maroon	AAM – car body repair – wood working/plastic	Automotive primer keying — dufuzzing of wood/patina removal, antiquing/ denibbing plastic	Comfortable innovative pa design ensures excellent finish & lifetime
Gen. Purpose Clean & Scour	Green	Metals, plastic	General purpose cleaning	Durable nylon web, low co advanced performance at economical price
Micro Fine	Gold	AAM car body repair	Keying of clear coat on sensible lacquer	Conformable innovative pa 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
PERFORAT	ED HAN	D PADS		
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 enoug to be used under hoods & door jams without tearing
Ultra Fine S	Grey	AAM/metal/plastic	Keying of clear coat/ final finishing	Provides excellent colour prep. adhesion, can be use wet or dry with prepping compounds
FINISHAN	DFINE			
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 conformab
Ultra Fine S	Grey	ААМ	Cleaning finishing keying car panels, paint blending	& can be used wet or dry

### SPEC CHECK

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





HAND PADS								
				PERFOR. HAND PADS	FINISH ANDFINE	HAND PADS	PLAIN DISCS	
DIM WxH(mm)	CAP CODE	GRADE	PK QTY	BE	ST	BETTER	GOOD	
100x200	F2529	Very Fine A	60*		636425 <b>57495</b>			
100x200	F4605	Ultra Fine S	60*		636425 <b>57496</b>			
	F2504	Very Fine A Long Life	60*	662610 <b>18293</b>				
	F4801	Ultra Fine	60*	662610 <b>18294</b>				
	F0001	White Cleaning	60*			662610 <b>18283</b>		
	F2302	Extra Cut	40*			636425 <b>57491</b>		
	F2300	Medium	60*			636425 <b>57493</b>		
150x230	F2401	Fine	60*			662610 <b>18286</b>		
	F2504	Very Fine A Long Life	60*			662610 <b>18287</b>		
	F2503	Gen. Purpose Clean & Scour	60*			662610 <b>18288</b>		
	F2801	Micro Fine A	60*			636425 <b>57277</b>		
	F4804	Ultra Fine S	60*			636425 <b>57494</b>		
230x280	F2504	Very Fine A Long Life	35			662610 <b>18291</b>		
200,,200	F4801	Ultra Fine	35			662610 <b>18292</b>		
Ø 150	F2520	Very Fine	10				636425 <b>57497</b>	
150	F4802	Ultra Fine	10				636425 <b>57498</b>	

<sup>\*</sup>Supplied in packs of 20



**Dimensions Key:** DIM = Dimensions, W = Width, H = Height,  $\emptyset$  = Diameter

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



FEATURES	BENEFITS
<ul> <li>High quality aluminium oxide or silicon carbide grain</li> </ul>	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	<ul><li>Long life</li><li>Waterproof &amp; solvent resistant</li></ul>

### **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 of 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 R	SLIT ROLLS						
				SLIT ROLLS			
DIM WxL	CAP CODE	GRADE	PK QTY	BEST			
	F2300	Medium	2	636425 <b>57499</b>			
	F2401	Fine	2	662610 <b>18300</b>			
100mmx10M	F2520	Very Fine A	2	636425 <b>57738</b>			
100111111111111111	F2504	Very Fine A Long Life	2	662610 <b>18301</b>			
	F2801	Micro Fine A	2	636425 <b>57500</b>			
	F4802	Ultra Fine	2	636425 <b>57501</b>			
	F2520	Very Fine A	2	636425 <b>57739</b>			
115mmx10M	F2504	Very Fine A Long Life	2	636425 <b>87694</b>			
	F4802	Ultra Fine	2	636425 <b>57503</b>			
	F2300	Medium	2	636425 <b>57504</b>			
	F2401	Fine	2	662610 <b>18307</b>			
125mm x10M	F2520	Very Fine A	2	636425 <b>57740</b>			
12311111 X 1014	F2504	Very Fine A Long Life	2	662610 <b>18308</b>			
	F2801	Micro Fine A	2	636425 <b>57505</b>			
	F4802	Ultra Fine	2	636425 <b>57506</b>			
	F2300	Medium	2	636425 <b>57507</b>			
150mmx10M	F2504	Very Fine A Long Life	2	662610 <b>18312</b>			
	F4802	Ultra Fine	2	636425 <b>57508</b>			



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

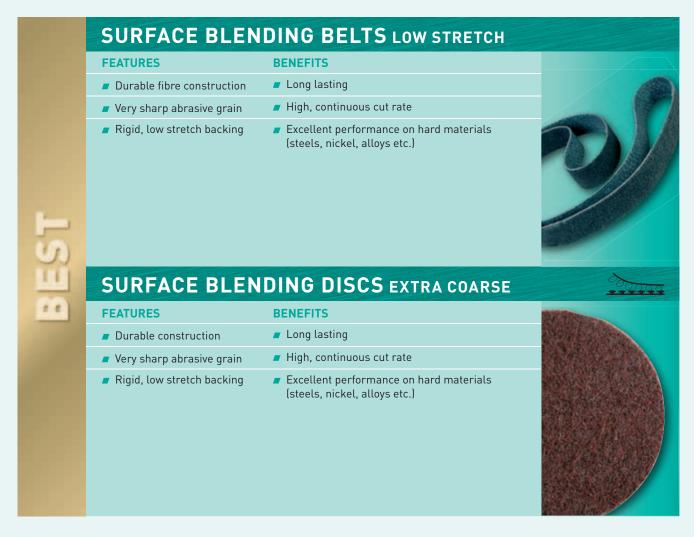
### **SURFACE BLENDING DISCS & BELTS**

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











### 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.





## **SURFACE BLENDING DISCS & BELTS**

## **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		
Tastina mass show that a laws of	actor chood is desirable for choo	:::	

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

### 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



<sup>\*</sup>Maximum operation speed is 33m/s



SURFAC	CE BLEI	NDING B	ELT	S LOW STRETCH
DIM	CAP	GRADE	PK	BEST
WxL(mm)	CODE	ONABL	QTY	DEST
	S2213	A Coarse	10	662611 <b>98671</b>
13x305	S2313	A Medium	10	662610 <b>16180</b>
	S2513	A Very Fine	10	662611 <b>98642</b>
	S2213	A Coarse	10	662610 <b>21089</b>
13x457	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>
	S2213	A Coarse	10	662610 <b>21091</b>
13x610	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>
ZUX43/	S2513	A Very Fine	10	662610 <b>21098</b>
20x520	S2313	A Medium	10	662611 <b>98660</b>
	S2213	A Coarse	10	662611 <b>98667</b>
25x610	S2313	A Medium	10	662611 <b>98662</b>
	S2513	A Very Fine	10	662611 <b>98649</b>
	S2213	A Coarse	10	636425 <b>93016</b>
30x533	S2313	A Medium	10	662611 <b>98664</b>
	S2513	A Very Fine	10	699573 <b>87893</b>
	S2112	Extra Coarse	10	662610 <b>21114</b>
F0 /F0	S2213	A Coarse	10	636425 <b>94874</b>
50x450	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>
F0 4F00	S2213	A Coarse	10	662610 <b>21111</b>
50x1500	S2313	A Medium	10	662610 <b>21112</b>
	S2213	A Coarse	10	662610 <b>21103</b>
50x2000	S2313	A Medium	10	662610 <b>21104</b>
	S2513	A Very Fine	10	662610 <b>21107</b>
	S2213	A Coarse	10	662611 <b>98669</b>
50x2500	S2313	A Medium	10	662611 <b>98666</b>
	S2513	A Very Fine	10	662611 <b>98653</b>
	S2213	A Coarse	10	662610 <b>21108</b>
75x2000	S2313	A Medium	10	662610 <b>21109</b>
	S2513	A Very Fine	10	662610 <b>21110</b>
	S2213	A Coarse	10	662611 <b>98670</b>
75x3000	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

# 232 SURFACE BLENDING DISCS & BELTS

SURFA	CE BI	ENDING D	ISC:	S	200000
DIA (mm)	CAP CODE	GRADE	PK QTY	BEST	BETTER
	S2112	Extra Coarse	20	636425 <b>57509</b>	
	S2211	Coarse FB*	20		636425 <b>57510</b>
115	S2211	Coarse	20		636425 <b>57511</b>
115	S2313	Medium	20		636425 <b>57717</b>
	S2513	Very Fine	20		636425 <b>57718</b>
	S4713	Super Fine	20		636425 <b>57719</b>
	S2112	Extra Coarse	20	636425 <b>57720</b>	
	S2211	Coarse FB*	20		636425 <b>57721</b>
105	S2211	Coarse	20		636425 <b>57722</b>
125	S2313	Medium	20		636425 <b>57723</b>
	S2513	Very Fine	20		636425 <b>57724</b>
	S4713	Super Fine	20		636425 <b>57725</b>
	S2112	Extra Coarse	10	636425 <b>57726</b>	
	S2211	Coarse FB*	10		636425 <b>57727</b>
150	S2211	Coarse	10		636425 <b>57728</b>
150	S2313	Medium	10		636425 <b>57729</b>
	S2513	Very Fine	10		636425 <b>57730</b>
	S4713	Super Fine	10		636425 <b>57731</b>
	S2112	Extra Coarse	10	636425 <b>57732</b>	
	S2211	Coarse FB*	10		636425 <b>57733</b>
178	S2211	Coarse	10		636425 <b>57734</b>
1/8	S2313	Medium	10		636425 <b>57735</b>
	S2513	Very Fine	10		636425 <b>57736</b>
	S4713	Super Fine	10		636425 <b>57737</b>

<sup>\*</sup>Fibre-backed

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>			
	M14	Medium	1	699573 <b>82841</b>			
125	5/8	Medium	1	636425 <b>95938</b>			
	5/16	Medium	1	636425 <b>95992</b>			
	M14	Medium	1	699573 <b>82843</b>			
150	5/8	Medium	1	636425 <b>95939</b>			
	5/16	Medium	1	636425 <b>95990</b>			
180	M14	Medium	1	699573 <b>82844</b>			
100	5/8	Medium	1	636425 <b>95940</b>			
200	M14	Medium	1	699573 <b>82842</b>			
200	5/8	Medium	1	636425 <b>95941</b>			

**Dimensions Key:** DIA = Diameter





NOTES			

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
■ SpeedLok <sup>®</sup> fastener	Quick, tool-free disc changes allow for more grinding time
Twist on & twist off in 2-1/2 turns	Disc locks securely to back-up pad, but is easily removed
25mm x 75mm TS discs – all metal fasteners	Mount to the Norton SpeedLok® TS or standard abrasives' quick-change back-up pads
25mm x 75mm TR discs – rubber threaded hubs	Mount to Norton TR or 3M Roloc back-up pads
■ Small disc sizes	Discs can access restricted corners & contours

SURFACE BLEN	DING	
FEATURES	BENEFITS	- 2012 (LA 2012)
Open structure	Resists loading on softer materials (aluminium, gaskets etc.)	
High abrasive content	Fast initial cut rate	
<b>■</b> Flexible backing	■ Conformable	
WHITE FELT		
FEATURES	BENEFITS	
Ideal for use with polishing compounds	Achieves spectacular results on a variety of metals such as stainless steel or aluminium	
■ 50mm x 75mm diameter size available		





#### **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 BENEFITS** Usable on a wide variety of shapes/contours Easily preformed Hold shape well They do not undercut or gouge which limits accidental damage to the component Non-metallic No contamination of workpiece HIGH STRENGTH DISC TR **FEATURES BENEFITS** Premium aluminium oxide Clean cutting & long lasting grain Firm, durable web High resistance to tearing on burrs & sharp edges Strong resin binders Highly smear-resistant Produces light satin finishes Smear-proof **RAPID STRIP TR & TR+ FEATURES BENEFITS** Open web construction Fast cutting & long lasting Follow difficult part profiles Conformable Easy cleaning of uneven surfaces Thick, strong, synthetic Quick cleaning & conditioning of surfaces fibres & extra coarse grit New 100mm TR+ discs Quick-change replacement; can be used on face & edge



## **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**

0. 222 2011 21000 111							
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





<sup>\*</sup>Please note: The operational speed is governed by application & product size



SUR	SURFACE BLENDING DISCS							
				TR	TS	TS		
DIA	CAP	GRADE	PK	BE	ST	BETTER		
(mm)	CODE	GRADE	QTY	SURFACE BLENDING	SURFACE BLENDING	BUFFING		
	S2106	Extra Coarse	25	636425 <b>86817</b>	636425 <b>69668</b>			
	S2300	Medium	25	636425 <b>56580</b>	636425 <b>56559</b>	636425 <b>87176</b>		
50	S2204	Coarse	25	636425 <b>56609</b>	636425 <b>56608</b>	636425 <b>87177</b>		
50	S2204	Fine	25			636425 <b>87175</b>		
	S2505	Very Fine	25	636425 <b>56575</b>	699573 <b>60378</b>	636425 <b>87171</b>		
	S4704	Super Fine	25	636425 <b>85626</b>	636425 <b>85670</b>			
	S2106	Extra Coarse	25	636425 <b>86830</b>	636425 <b>86820</b>			
	S2300	Medium	25	636425 <b>56601</b>	636425 <b>56593</b>	636425 <b>87180</b>		
75	S2204	Coarse	25	662610 <b>09194</b>	636425 <b>19572</b>	636425 <b>87181</b>		
/5	S2204	Fine	25			636425 <b>87179</b>		
	S2505	Very Fine	25	636425 <b>56599</b>	636425 <b>56591</b>	636425 <b>87178</b>		
	S4704	Super Fine	25	636425 <b>85649</b>	636425 <b>85676</b>			

SPECIA	ALIST TR		
DIA (mm)	GRADE	PK QTY	BEST  WHITE FELT
50	Felt	25	636425 <b>87165</b>
75	Felt	25	636425 <b>87167</b>



**Dimensions Key:** DIA = Diameter

UNITIZ	UNITIZED WHEELS TR					
DIA (mm)	CAP CODE	GRADE	PK QTY	BEST		
	U2301	2 A Medium	10	636425 <b>85684</b>		
EO	50 U2301 U2401	6 A Medium	10	636425 <b>85725</b>		
50		2 S Fine	10	636425 <b>85677</b>		
	U2401	4 A Fine	10	636425 <b>85679</b>		
	U2301	2 A Medium	10	636425 <b>85697</b>		
75	U2301	6 A Medium	10	636425 <b>85726</b>		
/5	U2401	2 S Fine	10	636425 <b>85691</b>		
	U2401	4 A Fine	10	636425 <b>85695</b>		

HIGH S	HIGH STRENGTH DISC TR							
DIA (mm)	CAP CODE	GRADE	PK QTY	BEST				
50	F2303	Medium	50	636425 <b>85924</b>				
75	F2506	Very Fine	50	636425 <b>85932</b>				

RAPID STRIP TR						
DIA	CAP	GRADE	PK	BEST	BETTER	
(mm)	CODE	GRADE	QTY	RAPID STRIP	STRIPPA	
50	R4101	Coarse	10	636425 <b>88173</b>	636425 <b>56605</b>	
75	R4101	Coarse	10	636425 <b>88175</b>	636425 <b>56624</b>	

RAPID	RAPID STRIP TR+						
DIA (mm)	CAP CODE	PK QTY	BEST				
100	R4101	5	636425 <b>85751</b>				

**Dimensions Key:** DIA = Diameter





BAC	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>			
75	Blue	1		636425 <b>57133</b>				
1/4-M14		1				636425 <b>87997</b>		

BAC	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>				

HOL	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



	RAPID STRIP D	ISCS NORGRIP	<u> </u>
	FEATURES	BENEFITS	49.750
1-	Norgrip backing	For quick & easy disc changing	
in	Open web construction	Fast cutting action with very little loading	
	Conformable	Easy cleaning of uneven surfaces	
60	Thick, strong, synthetic fibres & extra coarse grit	Quick cleaning & conditioning of surfaces	
1	Used with portable tools	Easy & safe to use especially in difficult to reach areas	

œ	RAPID STRIP D	ISCS	
ш	FEATURES	BENEFITS	-65094530
	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	
m	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			
RAPID STRIP WHE	ELS, FIBRE BACKED & DISCS TR PLUS FITTIN	IG			
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			
RAPID STRIP TR PLUS DISCS					
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			



# 242 RAPID STRIP DISCS

RAPID	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	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	CAP	PK	BE	EST				
DIAxTxS(mm)	CODE	QTY	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>					
	M14	Medium	1	699573 <b>82841</b>					
125	5/8	Medium	1	636425 <b>95938</b>					
	5/16	Medium	1	636425 <b>95992</b>					
	M14	Medium	1	699573 <b>82843</b>					
150	5/8	Medium	1	636425 <b>95939</b>					
	5/16	Medium	1	636425 <b>95990</b>					
100	M14	Medium	1	699573 <b>82844</b>					
180	5/8	Medium	1	636425 <b>95940</b>					
200	M14	Medium	1	699573 <b>82842</b>					
200	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>		

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 BENEFITS** Cushioning action Ideal for use on contoured surfaces & parts with awkward geometry Constructed using layers Achieves a consistent & uniform finish with of Beartex® with a smear no risk of gouging resistant formula Available in a wide range Suitable for a wide range of applications of sizes & grades including corrosion removal, cleaning & surface finishing



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

SPINDLE MOUNTED FLAP WHEELS							
DIM	GRADE	CAP	PK	BETTER			
DxWxB(mm)		CODE	QTY	SPINDLE MOUNTED			
40.00.4	Fine A	F2401	1	636425 <b>15905</b>			
60x30x6	Fine A interleaved	F2401	1	636425 <b>49640</b>			
	Fine A	F2401	1	636425 <b>15583</b>			
80x50x6	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>			

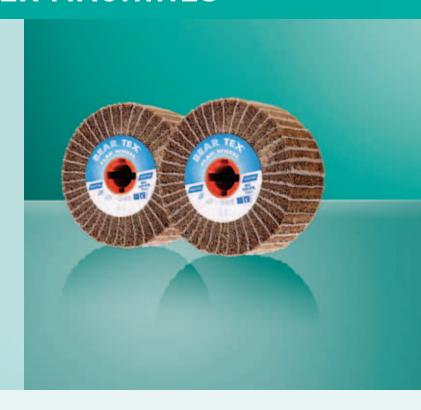
Dimensions Key: DIM = Dimensions, D = Diameter, W = Width, B = Bore

## **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



FEATURES	BENEFITS
Key way fitting	High compatibility with most common systems in the market
Used on portable machines	High mobility & flexibility
<ul><li>Wide range of different grades</li></ul>	From rust removal to a satin finish
<ul> <li>Advanced flap wheel construction</li> </ul>	<ul><li>Ensures perfect linear finish for repair</li><li>&amp; touch-up jobs</li></ul>

WHEELS SATINEX MACHINES								
TYPE	DIM DxTxB(mm)	CAP CODE	GRADE	PK QTY	BETTER			
		F2200	Coarse	6	636425 <b>57218</b>			
Satinex	110x100x19	F2300	Medium	6	636425 <b>57404</b>			
Saunex		F2400	Fine	6	636425 <b>57405</b>			
		F2504	Very fine	6	636425 <b>57406</b>			
Cational lateral second	110x100x19	F2200	Coarse	6	636425 <b>57407</b>			
Satinex Interleaved	110x100x10	F2300	Medium	6	636425 <b>57408</b>			
Satinex Polyurethane	110x100x19	P2W01	Coarse	6	636425 <b>57410</b>			
Satinex Rapid Strip	110x100x19	R4101	Extra Coarse	6	636425 <b>57184</b>			

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





PRODUCT SELECTION									
TYPE	INDUSTRY	APPLICATION	PRODUCTS						
WHEEL D	WHEEL DIRECTIONS/RECOMMENDATIONS								
	Architectural hardware	Finishing brass aluminium & steel, satin finishing	BearTex flap wheels provide a cushioned abrasive action which						
	Cast iron	Removing of old gasket material on cylinder heads of diesel engines	not only works well on flat areas, but is also ideal for use in finishing						
Flap brushes	Automotive	Removing of stonechip coating, paint & rust	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						
all densities	Stainless steel fabricators	Weld blending, removing of imperfections, blending spot welds							
	Stainless steel fabricators	Grain finishing on sheets							
	Architectural hardware	Decorative finishing	Satinex Fine and Very Fine or bright linear finishes						
	Wood	Removing paint & smoothing surface	Satinex Interleaved Grit 80						
Satinex wheels	Food processing	Weld blending, satin finishing	Satinex Very Fine - Polyurethane						
Wilcets	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						



## **UNITIZED WHEELS**

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



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	SELEC	TION		
APPLICATION AREA		ECIFIC ICATION	SPECIFICATION	RECOMMENDED SPEEDS
UNITIZED WHEELS				
Cleaning: oxidation removal, coatings, contaminations		oval, gasket removal, bonding agents after	NEX 4AFINE, 6AF 8AMED	10-26ms
Deburring: surface, edge, ID_OD & thread deburring		bine blades, machined luminium extrusions,	NEX 2SFINE, 4AFINE	10-26ms
Deburring: OD & thread deburring	Deburring of pipe to industry	hreads in oil & gas	NEX 7 SXC	10-26ms
Blending: removal of parting lines, grindline conditioning	Parting line remova defects & forge ma	al, blending surface rks	NEX 8MED, 8ACOARSE	30-40ms
Finishing: final finishing, satin finishing	Turbine blade edge implants (stainless figurines, jewellery		NEX 6AF, 8AM	2,5-15ms
Polishing: polishing surface defects, preparation before buffing	Polishing precision welds etc.	metal pieces,	NEX 2SFINE, 8AFINE	2,5-15ms
UNITIZED WHEEL I	NAMING SCHE	ME		
NEX - 8AC  Name of product line: NEX or series 10  Naming scheme: similar to convolute wheels	Product Line NEX	Density 2 3 4 5 6 7	Abrasive Type  A =  Aluminium Oxide  S =  Silicon Carbide	Grit Size  F = Fine  M = Medium  C = Coarse  XC = Extra Coarse

## SPEC CHECK

Unitized wheels can be run in either direction



# **UNITIZED WHEELS**

DIM   DATABlimm  CODE   GRADE   OTY   DEST	UNITIZ	ED WH	HEELS		
U2201   NEX-BAC   20   63642585761     U2301   NEX-2AM   20   63642585754     U2301   NEX-BAM   20   63642585758     U2401   NEX-4 AFINE   20   63642585755     U2401   NEX-6AF   20   63642585757     U4401   NEX-2SF   20   63642585757     U4401   NEX-2SF   20   63642585757     U2301   NEX BAM   20   63642585831     U2201   NEX-BAC   10   6364258576     U2301   NEX-BAM   10   6364258576     U2301   NEX-BAM   10   6364258576     U2401   NEX-4AF   10   6364258576     U2401   NEX-4AF   10   63642585771     U4401   NEX-2SF   10   63642585768     U2301   NEX BAM   10   66261019412     U3301   NEX BAM   10   66261019414     U4401   NEX-2SF   10   66261019414     U4401   NEX-2SF   10   66261019414     U4401   NEX SF   10   66261019414     U4401   NEX SF   5   63642585818     U2301   NEX BAMED   5   63642585818     U2301   NEX BAMED   5   63642585815     U4401   NEX SF   5   63642585815     U2301   NEX BAMED   5   639957350267     U3301   NEX 2AM   5   69957350267     U3301   NEX 2AM   5   63642585819     U3301   NEX-2AM   5   6364258589     U3301   NEX-2AM   5   6364258579     U4401   NEX-2SF   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM   5   6364258579     U300 x 25 x 25   U2301   NEX-2AM			GRADE		BEST
U2301	50x3x6	U2301	NEX 8AM	20	636425 <b>85828</b>
100   100		U2201	NEX-8AC	20	636425 <b>85761</b>
100   100		U2301	NEX-2AM	20	636425 <b>85754</b>
U2401   NEX 4 AFINE   20   63642585755     U2401   NEX-6AF   20   63642585757     U4401   NEX-2SF   20   63642585756     75x 3x6   U2301   NEX 8AM   20   6364258576     U2201   NEX-8AC   10   63642585776     U2301   NEX-8AM   10   63642585763     U2301   NEX-8AM   10   63642585774     U2401   NEX-6AF   10   63642585774     U2401   NEX-6AF   10   63642585771     U4401   NEX-6AF   10   63642585771     U4401   NEX-2SF   10   66261019412     U2301   NEX 6AMED   10   66261019412     U4401   NEX 2SF   10   66261019414     U4401   NEX 2SF   10   66261019414     U4401   NEX 2SF   10   66261019414     U2301   NEX 8AMED   5   63642585818     U2301   NEX 8AMED   5   63642585818     U2301   NEX 8AMED   5   63642585815     U2401   NEX 4 AFINE   5   63642585812     U2401   NEX 2SF   5   63642585812     U2401   NEX 2AM   5   69957350267     U3401   NEX 2AM   5   69957350267     U4401   NEX-2SF   5   69957350272     U2301   NEX-2AM   5   63642585795     U2401   NEX-2SF   5   63642585796     U2401   NEX-2SF   5   636425	502424	U2301	NEX-8AM	20	636425 <b>85758</b>
150x13x13   U4401   NEX-2SF   20   63642585756     75x 3x6   U2301   NEX 8AM   20   63642585831     102201   NEX-BAC   10   63642585776     102301   NEX-2AM   10   63642585763     102301   NEX-8AM   10   63642585774     102401   NEX-4AF   10   63642585774     102401   NEX-6AF   10   63642585768     102401   NEX-6AF   10   63642585768     102401   NEX-2SF   10   63642585768     102301   NEX 2AM   10   66261019412     150x6x13   U2301   NEX 6AMED   10   66261019414     104401   NEX 2SF   10   66261019416     104401   NEX 2SF   10   66261019416     102301   NEX 8AMED   5   63642585818     102301   NEX 8AMED   5   63642585815     104401   NEX 2SF   5   63642585815     104401   NEX 2SF   5   63642585812     150x25x13   U2401   NEX 4 AFINE   5   69957350267     150x25x13   U2401   NEX 2AM   5   69957350272     104401   NEX-2SF   5   63642585795     104401   NEX-2SF   5   63642585795     104401   NEX-2SF   5   63642585795     104401   NEX-2SF   5   63642585795     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585795     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2301   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NEX-2AM   5   63642585796     1200 x 25 x 25   U2401   NE	30x6x6	U2401	NEX 4 AFINE	20	636425 <b>85755</b>
75x 3x6 U2301 NEX 8AM 20 63642585831  U2201 NEX-8AC 10 63642585776  U2301 NEX-2AM 10 63642585763  U2301 NEX-2AM 10 63642585774  U2401 NEX-4AF 10 63642585774  U2401 NEX-4AF 10 63642585766  U2401 NEX-6AF 10 63642585771  U4401 NEX-2SF 10 63642585778  U2301 NEX 2AM 10 6621019412  U2301 NEX 6AMED 10 66261019414  U4401 NEX 2SF 10 66261019416  U2401 NEX 2AM 5 63642585818  U2301 NEX 2AM 5 63642585818  U2301 NEX 8AMED 5 63642585812  U2401 NEX 4 AFINE 5 63642585812  U2401 NEX 2AM 5 69957350267  150x25x13 U2401 NEX 2AM 5 69957350267  U3001 NEX 2AM 5 69957350272  U2001 NEX 2AM 5 6364258589  U2001 NEX 4 AFINE 5 63642585795		U2401	NEX-6AF	20	636425 <b>85757</b>
U2201 NEX-BAC   10   63642585776     U2301 NEX-2AM   10   6364258576     U2301 NEX-8AM   10   63642585774     U2401 NEX-8AM   10   63642585774     U2401 NEX-6AF   10   6364258576     U2401 NEX-6AF   10   63642585771     U4401 NEX-2SF   10   63642585768     U2301 NEX 2AM   10   66261019412     U2301 NEX 6AMED   10   66261019414     U4401 NEX 2SF   10   66261019416     U2301 NEX 2AM   5   63642585818     U2301 NEX 8AMED   5   63642585818     U2301 NEX 8AMED   5   63642585815     U2401 NEX 4 AFINE   5   63642585812     U2401 NEX 2SF   5   63642585812     U2301 NEX-2AM   5   69957350267     150x25x13   U2401 NEX 4 AFINE   5   69957350267     U4401 NEX-2SF   5   69957350272     U2301 NEX-2AM   5   63642585795     U4401 NEX-2SF   5   63642585795     U4401 NEX-2SF   5   63642585795     U4401 NEX-2SF   5   63642585795     U200 x 25 x 25   U2001 NEX 4 AFINE   5   63642585795     U200 x 25 x 25   U2001 NEX 4 AFINE   5   63642585795     U200 x 25 x 25   U2001 NEX-2AM   5   63642585796     U200 x 25 x 25   U2001 NEX-2AM   5   6364258		U4401	NEX-2SF	20	636425 <b>85756</b>
75x6x6  U2301 NEX-2AM 10 63642585763  U2301 NEX-8AM 10 63642585774  U2401 NEX-4AF 10 63642585766  U2401 NEX-6AF 10 63642585771  U4401 NEX-2SF 10 63642585768  U2301 NEX 2AM 10 66261019412  U3301 NEX 2AM 10 66261019414  U4401 NEX 2SF 10 66261019416  U3301 NEX 2AM 5 63642585818  U2301 NEX 2AM 5 63642585818  U2301 NEX 2AM 5 63642585818  U2301 NEX 8AMED 5 63642585815  U4401 NEX 2SF 5 63642585815  U4401 NEX 2SF 5 63642585812  U2301 NEX 2AM 5 69957350267  150x25x13 U2401 NEX 4 AFINE 5 69957350267  150x25x25 U2401 NEX-2AM 5 69957350272  U2301 NEX-2AM 5 69957350272  U2301 NEX-2AM 5 69957350272  U2301 NEX-2AM 5 63642585795  U4401 NEX-2SF 5 63642585795  U2401 NEX-2SF 5 63642585795	75x 3x6	U2301	NEX 8AM	20	636425 <b>85831</b>
75x6x6  U2301 NEX-8AM 10 63642585774  U2401 NEX-4AF 10 63642585766  U2401 NEX-2SF 10 63642585771  U4401 NEX-2SF 10 63642585768  U2301 NEX 2AM 10 66261019412  U4401 NEX 2SF 10 66261019414  U4401 NEX 2SF 10 66261019416  U4401 NEX 2SF 10 66261019416  U2301 NEX 8AMED 5 63642585818  U2301 NEX 8AMED 5 63642585818  U2401 NEX 4 AFINE 5 63642585815  U4401 NEX 2SF 5 63642585815  U4401 NEX 2SF 5 63642585812  U2301 NEX 4 AFINE 5 63642585812  U2301 NEX 2AM 5 69957350267  150x25x13 U2401 NEX 4 AFINE 5 69957350269  U4401 NEX 2SF 5 69957350272  U2301 NEX-2AM 5 63642585795  U2401 NEX 4 AFINE 5 63642585795  U2401 NEX 4 AFINE 5 63642585795  U2401 NEX 2SF 5 63642585795		U2201	NEX-8AC	10	636425 <b>85776</b>
U2401		U2301	NEX-2AM	10	636425 <b>85763</b>
U2401 NEX-4AF 10 63642585766  U2401 NEX-6AF 10 63642585771  U4401 NEX-2SF 10 63642585768  U2301 NEX 2AM 10 66261019412  150x6x13 U2301 NEX 6AMED 10 66261019414  U4401 NEX 2SF 10 66261019416  U2301 NEX 2AM 5 63642585818  U2301 NEX 2AM 5 63642585818  U2301 NEX 8AMED 5 63642585814  U2401 NEX 4 AFINE 5 63642585815  U4401 NEX 2SF 5 63642585812  U2301 NEX 2AM 5 69957350267  150x25x13 U2401 NEX 4 AFINE 5 69957350272  U4401 NEX 2SF 5 63642585795  U2401 NEX 4 AFINE 5 63642585795	7F / /		636425 <b>85774</b>		
U4401       NEX-2SF       10       63642585768         U2301       NEX 2AM       10       66261019412         150x6x13       U2301       NEX 6AMED       10       66261019414         U4401       NEX 2SF       10       66261019416         U2301       NEX 2AM       5       63642585818         U2301       NEX 8AMED       5       63642585824         U2401       NEX 4 AFINE       5       63642585815         U2301       NEX 2SF       5       63642585812         U2301       NEX-2AM       5       69957350267         150x25x13       U2401       NEX 4 AFINE       5       69957350269         U4401       NEX-2SF       5       69957350272         U2301       NEX-2AM       5       63642585789         150 x 25 x 25       U2401       NEX 4 AFINE       5       63642585792         U4401       NEX-2SF       5       63642585795         200 x 25 x 25       U2301       NEX-2AM       5       63642585796	/3X6X6	U2401	NEX-4AF	10	636425 <b>85766</b>
U2301		U2401	NEX-6AF	10	636425 <b>85771</b>
150x6x13 U2301 NEX 6AMED 10 66261019414 U4401 NEX 2SF 10 66261019416  150x13x13 U2301 NEX 2AM 5 63642585818 U2301 NEX 8AMED 5 63642585824 U2401 NEX 4 AFINE 5 63642585815 U4401 NEX 2SF 5 63642585812 U2301 NEX-2AM 5 69957350267 U2301 NEX-2AM 5 69957350267 U4401 NEX 4 AFINE 5 69957350269 U4401 NEX-2SF 5 69957350272 U2301 NEX-2SF 5 63642585789  150 x 25 x 25 U2401 NEX 4 AFINE 5 63642585792 U4401 NEX-2SF 5 63642585792 U4401 NEX-2SF 5 63642585795 U2301 NEX-2AM 5 63642585795		U4401	NEX-2SF	10	636425 <b>85768</b>
U4401     NEX 2SF     10     66261019416       U2301     NEX 2AM     5     63642585818       U2301     NEX 8AMED     5     63642585824       U2401     NEX 4 AFINE     5     63642585815       U4401     NEX 2SF     5     63642585812       U2301     NEX-2AM     5     69957350267       U4401     NEX 4 AFINE     5     69957350269       U4401     NEX-2SF     5     69957350272       U2301     NEX-2AM     5     63642585789       150 x 25 x 25     U2401     NEX 4 AFINE     5     63642585792       U4401     NEX-2SF     5     63642585795       U2301     NEX-2AM     5     63642585795       U2301     NEX-2AM     5     63642585795		U2301	NEX 2AM	10	662610 <b>19412</b>
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> U2301 NEX-2AM 5 699573 <b>50267</b> 150x25x13 U2401 NEX 4 AFINE 5 699573 <b>50269</b> U4401 NEX-2SF 5 699573 <b>50272</b> U2301 NEX-2AM 5 636425 <b>85789</b> 150 x 25 x 25 U2401 NEX 4 AFINE 5 636425 <b>85792</b> U4401 NEX-2SF 5 636425 <b>85795</b> U2401 NEX-2AM 5 636425 <b>85795</b>	150x6x13	13 U2301 NEX 6AMED 10 6626101	662610 <b>19414</b>		
150x13x13  U2301 NEX 8AMED 5 63642585824  U2401 NEX 4 AFINE 5 63642585815  U4401 NEX 2SF 5 63642585812  U2301 NEX-2AM 5 69957350267  U2401 NEX 4 AFINE 5 69957350269  U4401 NEX-2SF 5 69957350272  U2301 NEX-2AM 5 63642585789  150 x 25 x 25 U2401 NEX 4 AFINE 5 63642585792  U4401 NEX-2SF 5 63642585795  U2301 NEX-2AM 5 63642585795		U4401	NEX 2SF	10	662610 <b>19416</b>
150x13x13  U2401  NEX 4 AFINE  5  63642585815  U4401  NEX 2SF  5  63642585812  U2301  NEX-2AM  5  69957350267  150x25x13  U2401  NEX 4 AFINE  5  69957350269  U4401  NEX-2SF  5  63642585789  150 x 25 x 25  U2401  NEX 4 AFINE  5  63642585792  U4401  NEX-2SF  5  63642585795  U2301  NEX-2AM  5  63642585795  63642585796		U2301	NEX 2AM	5	636425 <b>85818</b>
U2401     NEX 4 AFINE     5     63642585815       U4401     NEX 2SF     5     63642585812       U2301     NEX-2AM     5     69957350267       150x25x13     U2401     NEX 4 AFINE     5     69957350269       U4401     NEX-2SF     5     69957350272       U2301     NEX-2AM     5     63642585789       150 x 25 x 25     U2401     NEX 4 AFINE     5     63642585792       U4401     NEX-2SF     5     63642585795       U2301     NEX-2AM     5     63642585796	450 40 40	U2301	NEX 8AMED	5	636425 <b>85824</b>
U2301 NEX-2AM 5 699573 <b>50267</b> 150x25x13 U2401 NEX 4 AFINE 5 699573 <b>50269</b> U4401 NEX-2SF 5 699573 <b>50272</b> U2301 NEX-2AM 5 636425 <b>85789</b> 150 x 25 x 25 U2401 NEX 4 AFINE 5 636425 <b>85792</b> U4401 NEX-2SF 5 636425 <b>85795</b> U2301 NEX-2AM 5 636425 <b>85795</b>	150X13X13	U2401	NEX 4 AFINE	5	636425 <b>85815</b>
150x25x13		U4401	NEX 2SF	5	636425 <b>85812</b>
U4401     NEX-2SF     5     69957350272       U2301     NEX-2AM     5     63642585789       150 x 25 x 25     U2401     NEX 4 AFINE     5     63642585792       U4401     NEX-2SF     5     63642585795       U2301     NEX-2AM     5     63642585796		U2301	NEX-2AM	5	699573 <b>50267</b>
U2301 NEX-2AM 5 636425 <b>85789</b> 150 x 25 x 25 U2401 NEX 4 AFINE 5 636425 <b>85792</b> U4401 NEX-2SF 5 636425 <b>85795</b> U2301 NEX-2AM 5 636425 <b>85796</b>	150x25x13	U2401	NEX 4 AFINE	5	699573 <b>50269</b>
150 x 25 x 25 U2401 NEX 4 AFINE 5 636425 <b>85792</b> U4401 NEX-2SF 5 636425 <b>85795</b> U2301 NEX-2AM 5 636425 <b>85796</b>		U4401	NEX-2SF	5	699573 <b>50272</b>
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U2301 NEX-2AM 5 636425 <b>85796</b>	150 x 25 x 25	U2401	401 NEX 4 AFINE 5 636425 <b>85792</b>	636425 <b>85792</b>	
200 x 25 x 25		U4401	NEX-2SF	5	636425 <b>85795</b>
	000 05 55	U2301	NEX-2AM	5	636425 <b>85796</b>
	200 x 25 x 25	U4401	NEX-2SF	5	636425 <b>85797</b>

MANDR	ELS				
SPINDLE DIA(mm)	TYPE	FOR WHEELS TxB(mm)	SPECIFICATION	PK QTY	
6	А	<6x6	M 3-6	1	636425 <b>86234</b>
6	В	6-12x3-6	M3 L 6	1	636425 <b>86236</b>
6	С	12-25x13	M 22 EXL 6	1	636425 <b>86239</b>

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





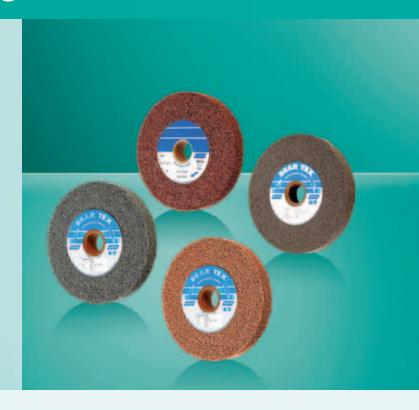
NOTES	

## **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



FEATURES	BENEFITS	00000 Statement
Smear & heat resistant formula	Use dry, wet or with oil	
Waterproof non-metallic	No contamination of workpiece	R TE
<ul><li>Dense web construction (9 density)</li></ul>	Long life & consistent high quality results	
More open web	Starting point for deburring, blending, polishing & finishing	
construction (6 density)	Smear proof & cool cutting on light deburring applications	



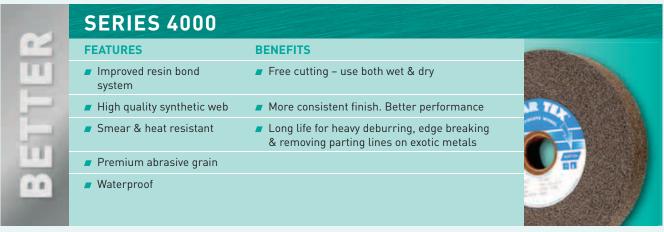
For more information, please refer to the BearTex  ${}^{\rm \tiny B}$  Catalogue





## **DMA METAL FINISHING FEATURES** Strongest resin binders Resilient long life construction Dense, very durable web Can be used for light deburring applications Premium, medium grit Generates uniform distinct satin & antique aluminium oxide grain finishes Cleans & conditions without gouging or changing Uniform grain dispersion & coating dimensions of workpiece **DSS SURFACE FINISHING FEATURES BENEFITS** Stronger web compared to More aggressive cutting action & more durability Clean/Finish wheels than Clean/Finish wheels Ideal for rust & paint removal, coarse decorative finishes & blending **SERIES 1000 FEATURES BENEFITS** Smear & heat Use dry, wet or with oil resistant formula Waterproof non-metallic No contamination of workpiece Dense web construction Long life & consistent high quality results (9 density) Starting point for deburring, blending, polishing & finishing ■ More open web Smear proof & cool cutting on light construction (6 density) deburring applications **SERIES 2000 FEATURES BENEFITS** Consistent, high quality results – smear-proof Improved resin bond system Eliminates "over cut" or gouging on titanium products like prostheses & aerospace turbine blades Conformable & flexible Cool cutting where heat generation must be kept to a minimum

# **CONVOLUTE WHEELS**



For more information, please refer to the BearTex  $^{\circledR}$  Catalogue





#### **PRODUCT SELECTION APPLICATION SPECIFICATION RECOMMENDED SPEEDS** SPECIFIC APPLICATION **AREA** 16 AM - 18 AM 11-32 ms/ 2,200 - 6,000 SFPM Cleaning General purpose cleaning, removing rust oxidation, corrosion, discolouration, flashings, pipe threads, machine parts, plastic moulded Deburring Removing medium to heavy burrs - deburring 1 - 9 SF 28-41 ms/ 5,500 - 8,000 SFPM die cast/smoothing radii on metal parts/ blending coated abrasive scratch pattern Blending Smoothing parting lines, polishing welds, 1 - 7 SF 28-41 ms/5,500 - 8,000 SFPM machine parts 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, such as water, water soluble oil & straight oil, will decrease the heat generated while running,

The higher the viscosity of the lubricant, the lower the surface finish (RMS value) produced

## **SPEC CHECK**

Lubricants

Testing may show that a slower or faster speed is desirable for specific operations. Never exceed the maximum RPM rating of the wheel

improve the luster & improve the surface finish

# 256 CONVOLUTE WHEELS

CON	VOL	JTE V	VHE	ELS							
						LONG LIFE	DBS B442	DSS SURF. FINISH	SERIES 1000	SERIES 2000	SERIES 4000
DIM DxWxH (mm)	REF CODE	GRADE	DTY	ABR TYPE	PK QTY	BEST			BETTER		
	D17	Fine	7	SIC	4	662610 <b>18628</b>					
	D17	Medium	7	ALOX	4	662610 <b>18857</b>					
	D17	Medium	7	SIC	4	699573 <b>97880</b>					
150x12x25	D18	Fine	8	SIC	4	662610 <b>18773</b>					
	D18	Medium	8	ALOX	4	662610 <b>18789</b>					
	D49	Fine	9	SIC	4						662610 <b>04021</b>
	DBS	Fine	-	SIC	4		662610 <b>54908</b>				
	D16	Fine	6	ALOX	3				662610 <b>55204</b>		
	D16	Medium	6	ALOX	3				662610 <b>55205</b>		
	D16	Medium	6	SIC	3				662610 <b>55202</b>		
	D17	Fine	7	SIC	3				662610 <b>55223</b>		
450.05.05	D19	Medium	9	SIC	3				662610 <b>55371</b>		
150x25x25	D48	Fine	8	SIC	3						662610 <b>08658</b>
	D48	Medium	8	ALOX	3						662610 <b>04208</b>
	DBS	Fine	-	SIC	4		699573 <b>52335</b>				
	DSS	Medium	-	SIC	4			662610 <b>58550</b>			
	DSS	Coarse	-	SIC	4			662610 <b>58553</b>			
	D17	Fine	7	ALOX	2				662610 <b>08897</b>		
150x50x25	D17	Medium	7	ALOX	3				662610 <b>55229</b>		
	DSS	Medium	-	SIC	2			662610 <b>58560</b>			
	D16	Fine	6	SIC	3	662610 <b>19693</b>					
	D16	Medium	6	SIC	3				662610 <b>55208</b>		
	D17	Fine	7	ALOX	3				699573 <b>52389</b>		
	D17	Fine	7	SIC	3	662610 <b>18639</b>			699573 <b>94795</b>		
	D17	Medium	7	ALOX	3				662610 <b>55232</b>		
	D17	Medium	7	SIC	3	699573 <b>94610</b>					
	D18	Fine	8	SIC	3	662610 <b>18775</b>					
200x25x76	D18	Medium	8	ALOX	3	662610 <b>18855</b>					
	D18	Medium	8	SIC	3	662610 <b>18673</b>					
	D19	Fine	9	SIC	3	662610 <b>18641</b>					
	D19	Fine	9	SIC	3				662610 <b>08886</b>		
	D19	Medium	9	SIC	3	662610 <b>18997</b>					
	D28	Fine	8	SIC	3					662610 <b>13094</b>	
	D48	Fine	8	SIC	3						662610 <b>04123</b>
	D48	Medium	8	ALOX	3						662610 <b>04165</b>
	D40	Mediuiii	0	ALUX	- 3						00201004103

**Dimensions Key:** DIM = Dimensions, D = Diameter, W = Width, H = Height, ABR = Abrasive Type, DTY = Density





CON	VOL	JTE V	VHE	ELS	(COI	NTINUED					
						LONG LIFE	DBS B442	DSS SURF. FINISH	SERIES 1000	SERIES 2000	SERIES 4000
DIM DxWxH (mm)	REF CODE	GRADE	DTY	ABR TYPE	PK QTY	BEST			BETTER		
	D16	Medium	6	SIC	2				662610 <b>55211</b>		
	D17	Fine	7	ALOX	2				662610 <b>09252</b>		
	D17	Fine	7	SIC	2				662610 <b>55233</b>		
	D17	Fine	9	SIC	2	662610 <b>18877</b>					
200x50x76	D17	Medium	7	ALOX	2				662610 <b>55235</b>		
	D18	Fine	7	SIC	2	662610 <b>19629</b>					
	D19	Fine	8	SIC	2	662610 <b>18987</b>					
	D19	Fine	9	SIC	2				662610 <b>55276</b>		
	DBS	Fine	-	SIC	2		662610 <b>58718</b>				
	D17	Fine	7	SIC	4	699573 <b>52396</b>					
	D18	Fine	8	SIC	4	662610 <b>19221</b>					
250x12x127	D18	Medium	8	ALOX	4	699573 <b>52395</b>					
	D18	Medium	9	SIC	4	662610 <b>19005</b>					
	D19	Fine	9	SIC	4	662610 <b>19222</b>					
250x25x76	D28	Fine	8	SIC	2					699573 <b>52334</b>	
250x25x127	D18	Medium	8	ALOX	4	699573 <b>52402</b>					
250x50x127	D28	Fine	8	SIC	1					662610 <b>13058</b>	
300x50x125	DSS	Coarse	-	SIC	1			662610 <b>58574</b>			
305x50x127	D28	Fine	8	SIC	1					662610 <b>13060</b>	

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	0	A thick pad that is aggressive, durable, & consistent, for wet stripping applications							
Green Super Scrub	0	A heavy duty wet scrubbing pad that will remove the toughest scuff marks in heavily soiled traffic areas							
Blue Super Clean	0	For general duty scrubbing or heavy spray cleaning jobs							
Beige	0	For buffing & polishing, good for light traffic areas							
Red Buffer	0	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





STAND	STANDARD FLOOR PADS										
DIA (mm)	CAP CODE	GRADE	PK QTY	BETTER							
	JF175	White Super Gloss	5	636425 <b>85892</b>							
	JF176	Red Buffer	5	636425 <b>85890</b>							
406	JF177	Beige	5	636425 <b>85873</b>							
400	JF178	Black Super Strip	5	636425 <b>85841</b>							
	JF180	Green Super Scrub	5	636425 <b>85877</b>							
	JF181	Blue Super Clean	5	636425 <b>85868</b>							

THIN L	THIN LINE FLOOR PADS										
DIA (mm)	CAP CODE	GRADE	PK QTY	BETTER							
	JU014	Black	10	636425 <b>85895</b>							
/0/	JF068	Green	10	636425 <b>85899</b>							
406	JF040	Beige	10	636425 <b>85903</b>							
	JF175	White	10	636425 <b>85904</b>							

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



	HIGH STREN	GTH DISCS				
	FEATURES	BENEFITS	distance.			
	Durable	■ Good product life				
	Tear resistant	Helps avoid gouging or chunking the workpiece				
BES	<b>■</b> Flexible	<ul><li>Follow surface contours</li><li>Can be used for chamfering</li></ul>				

HIGH S	HIGH STRENGTH DISCS										
DIM DxB(mm)	CAP CODE	GRADE	PK QTY	BEST							
150-10	F2303	Medium	70	636425 <b>85909</b>							
150x12	F2506	Very Fine	70	636425 <b>85912</b>							
200-42	F2303	Medium	50	636425 <b>85915</b>							
200x12	F2506	Very Fine	50	636425 <b>85918</b>							

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





## **ORGANIC**

326 CUT-OFF WHEELS

332 SNAGGING WHEELS & CUPS

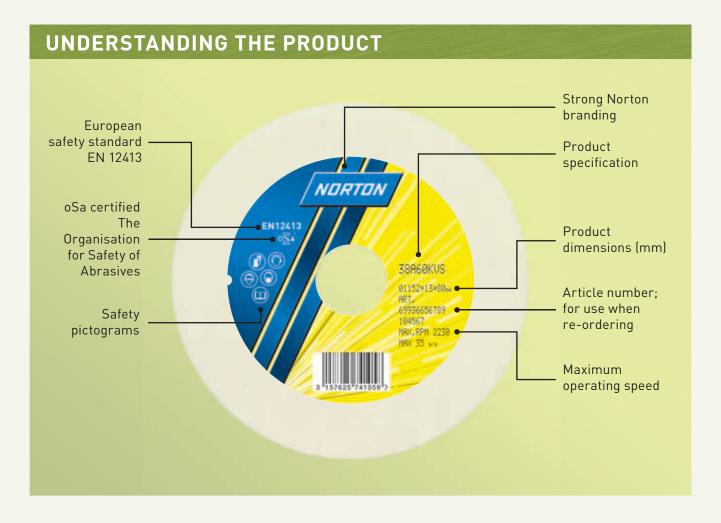
336 MOUNTED POINTS

# **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.







#### **ABRASIVE TYPES**

CERAMIC ALUMIUM 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

CO	ммо	N RA	NGE	OF GI	RADE	S										
Е	F	G	Н	1	J	K	L	М	N	0	Р	Q	R	S	Т	U
					CYLIN	DRICAL,	/CENTR	ELESS								
	SURFA	RFACE GRINDING														
						ID GRI	NDING									
					T00	L GRINE	DING									
						THRE	AD GRIN	NDING								
	NON-REINFORCED ORGANIC															
												REII	NFORCE	D ORGA	NIC	

### **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

UNDERS	STANDI	NG THE S	PECIF	CATIO	N						
	ABRASIVE				GRIT SIZE			GRADE			BOND
ALUMINIUM OXIDE	SILICON CARBIDE	CERAMIC ALUMINIUM OXIDE	COARSE	MEDIUM	FINE	SOFT	MEDIUM	HARD	CLOSED	OPEN	
А	37C	SGB	12	30	80	Е	1	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	Н	L	T			VTECH
40A				60			М				
57A				70			N				
86A							0				
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:

SNAGGIN	IG WHEELS & CUPS							
B & B3	Foundry 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							
CUTTING-OFF WHEELS								
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							
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							
B65	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.

INNOVATION	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	BETTER	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
BEST	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	G009	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.

# **APPLICATION GUIDE**

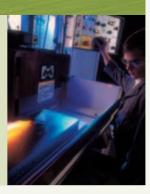
# CYLINDRICAL GRINDING

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 G	JIDE			
	CYLINDRICAL	INTERNAL	SURFACE	TOOL & CUTTE
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 KVX		
Ceramic (green)	39C 60 KVS	39C 80 IVS	39C 60 JVS	
Ceramic (fired)	39C 100 KVS			
Chrome plate	SGB 80 IVXP	ES5 80 JVX	SGB 60 KVX	
	38A 80 KVS		86A 70 GVXP	
Crankshaft (regrind)	57A 60 MVS			
Glass (cutting)			39C 60 KVS	
Glass (polishing)			A150 MVS	
Aerospace alloys:	SGB 80 IVXP	ES5 60 KVX	IPX 60 XHVTX	
Nimonic, Inconel, Hastalloy	38A 80 KVS	SGB 60 KVX	3SG 60 JVX	
Plastics	39C 80 JVS	ES5 60 KVX	IPX 60 XHVTX	
Plastics	SGB 80 IVXP			
DI	39C 60 KVS	39C 80 IV	39C 46 KVS	
Plasma spray	39C 100 KVS		38A 54 IVXP	
Rubber	IPX 60 EHVTX			
Spray metal	39C 60 KVS	39C 80 IV	39C 60 KVS	
(Cr. Ni)	39C 100 KVS	ES5 80 KVX	38A 54 IVXP	
Steel – soft	57A 60 LVS	3SG 60 KVX	86A 54 KVS	
(Up to 45Rc)	SGB 60 LVX	38A 60 LVS	38A 46 KVS	
Steel high carbon high	3SG 60 KVX	5SG 60 KVX	IPX 60 XHVTX	
chrome content – (46 – 56 Rc) D2, D3 etc.	SGB 60 KVX	3SG 60 KVX	3SG 60 JVX	
	3SG 60 KVX	ES5 80 KVX	1TGP 60 HVX	ES5 80 JVX
Steel hardened (Over 56 Rc)	SGB 60 KVX	5SG 60 KVX	IPX 60 EHVTX	5SG 46 KVX
(Over 56 KC)		3SG 60 KVX	3SG 60 IVXP	SGB 60 JVX
Ctainlage steel non magnetic	39C 60 KVX	39C 60 JVX	39C 46 KVS	
Stainless steel non-magnetic (Austenitic)			38A 54 IVXP	
Chainless sheet mannahis	SGB 60 LVX	ES5 60 KVX	SGB 60 KVX	
Stainless steel magnetic (Martensitic)	57A 60 LVX	SGB 60 KVX	86A 60 IV TECH	
Stellite	38A 60 LVS	SGB 60 KVX	SGB 60 HVXP	
Titanium	39C 60 KVX	39C 60 KVX	39C 60 KVX	
	3SG 60 KVX	ES5 60 KVX	1TGP 60 HVX	3SG 60 KVX
High speed steel	SGB 60 KVX	SGB 60 JVX	IPX 60 EHVTX	SGB 60 JVX
g speed steet	38A 60 JVS	86A 60 KV TECH	3SG 60 IVXP	38A 60 JV
	39C 80 JVS	557. 55 TO TO TEOT	39C 80 IVS	39C 80 JVS

# **APPLICATION GUIDE**

# 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 SHARF	PENING					
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		Soft	Т6	38A 60 MVS T6
Treated steel	Curan	Roughing	1mm resin	Medium	M6	86A 54 KVS M6
Treated Steet	Swage	Finishing	coated on	Soft	Т6	38A 60 MVS T6
		Finishing	one side	Soft	Т6	38A 60 MVS T6
Stellite tipped	Stellite tipped	Roughing		Medium	M6	86A 54 KVS M6
		Truing		Hard	D6	86A 54 OVS D6



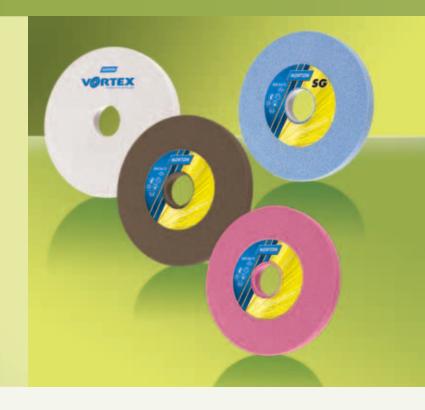


NOTES	

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	BENEFITS	
	High performance SG <sup>®</sup> ceramic aluminium oxide abrasive	Blend of premium TG grain with pink aluming Blend of premium Blend of premium TG grain with pink aluming Blend of premium	ina
	Harder & sharper than conventional abrasive grains	Extremely high removal rate & wheel life	
	Unique, self sharpening, microcrystalline structure	Effective when productivity is the primary concern	
INDVATION IN THE INTERPRETATION INTERPRETATION IN THE INTERPRETATION INTERPRETATION INTERPRETATION INTERPRETATION INTERPRETATION INTERPRETATION INTERPRETATION INTERPRETATION INTERPRETATION INTERPRET	Elongated grain shape	Suitable for medium to high power & stiff machines	
о N	IPA VORTEX™ T	ECHNOLOGY -	Type 01
	FEATURES	BENEFITS	
	High performance engineered alumina grain	Very high metal removal rates, resulting in reduced cycle times	
	High porosity & permeability for maximum coolant diffusion	Lower total cost per hour	RIEX
	• Ontimal grain spacing for	Increase wheel life	
	Optimal grain spacing for improved chip clearance	Consistent grinding performance	
	& reduced friction	Extremely cool cutting action promoting burn free results	

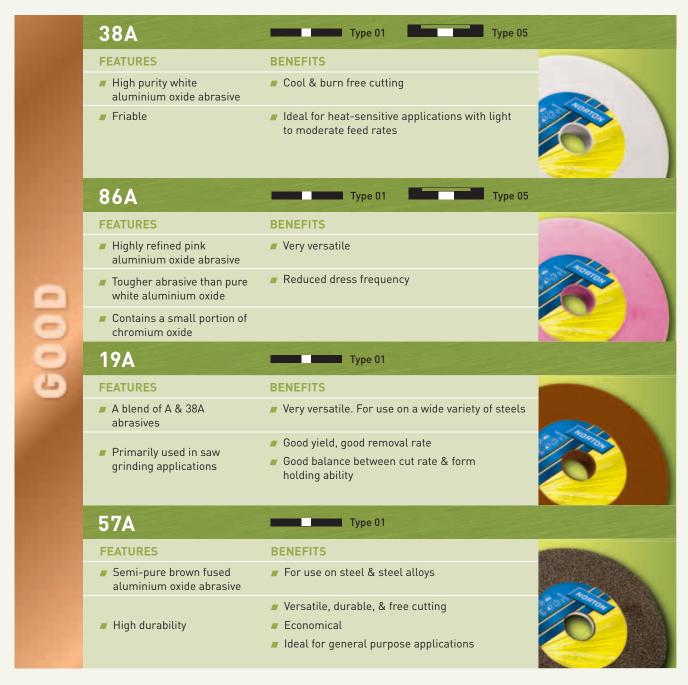
















						1111101	/ATION					
DIM	Р	F		MOS	PK		/ATION				_	
DIAxTxB (mm)	(mm)		SHAPE	(M/S)	QTY		EST	BET	TER	G00	D	
,,,,,						BE	EST					
		Type 0	1		Ту	/pe 05						
10x10x4			01	45	10	ES5 80 JVX	662530 <b>50152</b>					
13x13x4			01	45	10	ES5 60 LVX	662530 <b>50120</b>					
13x13x4,76	6	6	05	45	10	ES5 60 KVX	662530 <b>49906</b>					
4/4//			01	45	10	ES5 80 JVX	662530 <b>50153</b>			38A 60 LVS	662530 <b>50</b> 3	
16x16x6	10	8	05	45	10	ES5 60 LVX	662530 <b>49919</b>					
			01	45	10					38A 60 LVS	699366 <b>41</b> 1	
20x20x6	13	10	05	45	10	ES5 80 JVX	662530 <b>49935</b>	SGB 60 KVX	699366 <b>81793</b>			
20x20x6,35	10	10	05	45	10	ES5 60 KVX	662530 <b>49908</b>					
25x25x6,35	13	12	05	45	10	ES5 80 IVX	662530 <b>49890</b>			38A 60 LVS	699366 <b>21</b> !	
	13	12	05	45	10	ES5 60 LVX	662530 <b>49913</b>					
25x25x8	13	10	05	45	10	ES5 80 JVX	662530 <b>49943</b>	SGB 60 KVX	699366 <b>81795</b>			
32x20x10	16	10	05	45	10			SGB 60 JVX	699366 <b>41074</b>			
32x25x8	13	10	05	45	10	ES5 60 JVX	662530 <b>49945</b>					
32x30x10	18	12	05	45	10			SGB 60 KVX	699366 <b>81798</b>			
32x32x9,53	16	16	05	45	10	ES5 80 IVX	662530 <b>49912</b>					
32x32x10	16	16	05	45	10	200 00 1171	00200047712	SGB 60 JVX	699366 <b>76291</b>	38A 60 LVS	699366 <b>75</b>	
40x25x9,53	20	12	05	45	10	ES5 60 KVX	662530 <b>49903</b>	30B 00 3 V X	07700070271	00A 00 LV3	07700070	
40x25x7,33	16	12	05	45	10	ES5 80 KVX	66253047703					
			05	45								
40x32x10	20	16			10	ES5 60 LVX	662530 <b>49940</b>					
40x40x10	16	20	05	45	10	ES5 60 KVX	662530 <b>49916</b>			204 (0 NIVC	/000// <b>FF</b>	
50x6x6	00	1./	01	45	10	ECE (0.1)()	//0500/0000			38A 60 NVS	699366 <b>75</b>	
50x32x13	30	16	05	45	10	ES5 60 LVX	662530 <b>49938</b>			0/4 /010/75011	//050040	
50x40x10	25	20	05	45	10	505 (0100)					662530 <b>49</b>	
50x40x12,7	25	20	05	45	10		662530 <b>49889</b>			38A 60 LVS	699366 <b>21</b>	
50x40x13	25	20	05	45	10		662530 <b>49949</b>					
50x40x16	25	20	05	45	10	ES5 60 KVX	662530 <b>49926</b>			86A 60 KVTECH		
63x10x20			01	45	10					38A 60 NVS	662530 <b>50</b>	
63x40x12,7	32	20	05	45	10	ES5 80 IVX	662530 <b>49910</b>			38A 60 LVS	699366 <b>21</b>	
65x50x16	25	25	05	45	10			SGB 60 JVX	699366 <b>76211</b>			
76x32x20	42	16	05	45	10	ES5 60 JVX	662530 <b>49931</b>					
80x10x32			01	45	10					38A 60 LVS	662530 <b>50</b>	
100x6x32			01	45	2					38A 60 LVS	662530 <b>50</b>	
100x10x32			01	45	2	3SG 60 KVX	662530 <b>50246</b>			38A 60 LVS	662530 <b>50</b>	
100x13x32			01	45	2			SGB 60 KVX	662530 <b>49862</b>	38A 60 LVS	662530 <b>50</b>	
100x16x32			01	45	2	3SG 46 KVX	662530 <b>50283</b>					
			01	45	2					38A 46 KVS	662530 <b>54</b>	
100x20x32			01	45	2					38A 60 KVS	662530 <b>51</b>	
			01	45	2					38A 60 LVS	662530 <b>50</b>	
105. / 00			01	45	2	3SG 60 LVX	662530 <b>54862</b>			38A 60 LVS	662530 <b>50</b>	
125x6x32			01	45	2					38A 60 NVS	699366 <b>75</b>	
125x8x32			01	45	2					38A 60 LVS	662530 <b>50</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, P = Recess Diameter, F = Recess Depth

STRAI	GHT	WH	EE	LS (con	TINUED)				
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)		BE	EST	BET	TER	G00	D
	Type 0	1 _		Type 01F					
	01	45	2					38A 46 JVS	662530 <b>50441</b>
	01	45	2					38A 60 KVS	662530 <b>51063</b>
125x10x32	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>
123820832	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>
	01	45	6					38A 60 LVS	699366 <b>75591</b>
150x4x20	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>
450 / 00	01	63	6					19A 60 OVS MDVS	699366 <b>75946</b>
150x6x20	01F	45	6	200 (01)//	//2520 <b>550/0</b>	COD 00 LVV	//0500/00/5	86A 80 OVS	699366 <b>86760</b>
	01	45 45	2	3SG 60 LVX 3SG 80 LVX	662530 <b>55040</b> 662530 <b>54873</b>	SGB 80 LVX	662530 <b>49867</b>	38A 80 NVS 38A 120 JVS	699366 <b>41572</b>
150x6x32	01	45	2	330 00 LVA	662330 <b>34673</b>			38A 80 KVS	699366 <b>75746</b> 662530 <b>51068</b>
130x0x32	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>	17A 00 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	077000 <b>7070</b>
150x8x20	01F	45	6			002 00 11171	00200047700	86A 80 OVS	699366 <b>86743</b>
	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>
150x8x32	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>
	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>
150x10x32	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.





SIRAI	GHI	WH	EE	LS (CONTI	NUED)				
				INNOVA	TION				
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)		BES	T	ВЕТ	TER	G00	D
DIAXTXD(IIIIII)		(141/2)	QII	BES	Т				
	Type 0	1							
	01	45	2	5SG 60 KVX	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>
150,42,22	01	45	2	3SG 60 LVX	662530 <b>50142</b>			38A 60 IVS	699366 <b>75756</b>
150x13x32	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>
	01	45	2	5SG 60 KVX	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>
150x16x32	01	45	2	3SG 60 LVX	662530 <b>50367</b>			38A 46 NVS	699366 <b>75762</b>
130X16X32	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>
	01	45	2	5SG 60 KVX	699366 <b>40816</b>	SGB 60 KVX	662530 <b>49874</b>	38A 46 KVS	662530 <b>51064</b>
	01	45	2	3SG 60 KVX	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>
150x20x32	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>
	01	45	2					38A 60 KVS	662530 <b>50452</b>
150x25x32	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>
	01	45	2			SGB 120 JVX	699366 <b>38720</b>	38A 60 LVS	699366 <b>75784</b>
180x6x32	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>
	01	45	2			SGB 60 JVX	699366 <b>39145</b>	38A 80 JVS	699366 <b>75781</b>
180x10x32	01	63	6					19A 60 MVS MTVS	699366 <b>75984</b>
	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>
180x13x32	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>
	01	45	2	3SG 46 HVX	662530 <b>54882</b>	SGR 70	699366 <b>39169</b>	38A 46 HVS	699366 <b>75804</b>
100 11 00	3,	.0				SGB 70 G12VXP		33.1.01113	
180x16x32	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



STRAI	GHT	WF	IEE	LS (CONT	INUED)				
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)		BES	т	BETT	ER	G00I	D
	Type 0	1 _		Type 01F					
	01	45	2	3SG 46 HVX	662530 <b>54883</b>	SGB 46 H12VXP	699366 <b>38723</b>	38A 46 HVS	662530 <b>5045</b>
180x20x32	01	45	2	3SG 60 I12VXP	662530 <b>50166</b>	SGB 60 H10VXP	699366 <b>39170</b>	38A 46 JVS	699366 <b>9370</b>
100020032	01	45	2			SGB 60 KVX	662530 <b>49878</b>	38A 60 JVS	699366 <b>7581</b>
	01	45	2					38A 60 MVS	662530 <b>5027</b>
180x25x32	01	45	2					38A 60 KVS	662530 <b>5036</b>
100%23%32	01	45	2					38A 60 LVS	699366 <b>7581</b>
180x25x51	01	45	2					38A 46 NVS	699366 <b>4096</b>
100023031	01	45	2					38A 60 MVS	699366 <b>4108</b>
200x4x32	01	63	6					19A 60 OVS MDVS	699366 <b>7598</b>
	01	45	2	3SG 60 LVX	699366 <b>39434</b>	SGB 120 JVX	699366 <b>77029</b>	38A 60 MVS	662530 <b>5045</b>
200x6x32	01	45	2					38A 80 NVS	699366 <b>3966</b>
200,00,02	01	63	6					19A 60 MVS MTVS	699366 <b>7598</b>
	01	63	6					19A 60 OVS MDVS	699366 <b>7598</b>
200x8x20	01F	45	6			38A 60 NVS	699366 <b>88291</b>		
	01	63	6					38A 60 MVS T6	699366 <b>5807</b>
200x8x32	01	63	6					19A 54 OVS MDVS	699366 <b>7598</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>7599</b>
	01	45	2	3SG 60 LVX	662530 <b>54884</b>	SGB 60 JVX	699366 <b>39157</b>	38A 60 LVS	699366 <b>7581</b>
	01	45	2			SGB 80 JVX	699366 <b>39158</b>	38A 120 JVS	699366 <b>7581</b>
	01	63	6					38A 60 MVS T6	699366 <b>7592</b>
200x10x32	01	63	6					86A 54 OVS D6	662530 <b>5014</b>
	01	63	6					19A 54 OVS MDVS	699366 <b>7599</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>7599</b>
	01F	63	6					38A 54 OVS	699366 <b>6726</b>
	01	45	2			SGB 60 JVX	699366 <b>39160</b>	38A 46 HVS	699366 <b>7582</b>
	01	45	2			SGB 60 KVX	662530 <b>49881</b>	38A 60 JVS	699366 <b>7582</b>
	01	45	2			SGB 80 JVX	699366 <b>39161</b>	38A 60 LVS	699366 <b>7582</b>
200x13x32	01	45	2			SGB 120 JVX	699366 <b>76608</b>	86A 70 G12VXP	662530 <b>5037</b>
	01	63	6					38A 60 MVS T6	699366 <b>7592</b>
	01	63	6					19A 54 OVS MDVS	699366 <b>7599</b>
	01	63	6					19A 60 MVS MTVS	699366 <b>7599</b>
200x13x50,8	01	45	2					38A 60 JVS	699366 <b>3943</b>
200x16x32	01	45	2					38A 46 HVS	699366 <b>7582</b>
200710797	01	45	2					38A 60 KVS	662530 <b>5045</b>
200x16x50,8	01	45	2					38A 60 JVS	699366 <b>4131</b>
200x16x76,2	01	45	2					38A 60 LVS	699366 <b>7582</b>
	01	45	2	3SG 60 H12VXP	699366 <b>77181</b>	SGB 46 HVX	699366 <b>39171</b>	38A 46 HVS	699366 <b>7555</b>
	01	45	2	3SG 60 IVX	662530 <b>50258</b>	SGB 60 H12VXP	699366 <b>39172</b>	38A 46 KVS	662530 <b>5107</b>
	01	45	2	3SG 60 JVX	662530 <b>55869</b>	SGB 60 KVX	662530 <b>49887</b>	38A 46 NVS	699366 <b>4140</b>
200x20x32	01	45	2			SGB 60 MVX	662530 <b>50173</b>	38A 60 KVS	662530 <b>5107</b>
	01	45	2					38A 60 NVS	699366 <b>6715</b>
	01	45	2					38A 80 KVS	662530 <b>5108</b>
	01	45	2					86A 54 H12VXP	662530 <b>5153</b>





STRA	IGHT	Wŀ	1EE	LS (CONT	INUED)					
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)		BES	т	BETT	ER	GOOD		
	Туре (	01								
	01	45	2	3SG 46 E12VXP	699366 <b>76703</b>			38A 46 KVS	699366 <b>41104</b>	
200x20x50	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>					
	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>	
200x20x50,8	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>	
	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>	
200x25x32	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>	
	01	45	2			SGB 46 HVX	662530 <b>49855</b>	38A 46 KVS	662530 <b>51086</b>	
200x25x51	01	45	2					38A 60 KVS	662530 <b>51089</b>	
	01	45	2					38A 60 LVS	699366 <b>40125</b>	
	01	45	2					38A 46 HVS	699366 <b>41562</b>	
	01	45	2					38A 46 KVS	662530 <b>49968</b>	
200x25x76,2	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>	
	01	45	2			SGB 60 KVX	662530 <b>49892</b>	38A 46 MVS	662530 <b>52712</b>	
200x32x32	01	45	2					38A 60 LVS	699366 <b>75855</b>	
	01	45	2					38A 60 NVS	699366 <b>67155</b>	
200x32x51	01	45	2					38A 60 LVS	699366 <b>40245</b>	
	01	45	2					38A 46 IVS	662530 <b>52713</b>	
200x32x76,2	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.

STRA	IGHT	WH	IEE	LS (CONT	INUED)				
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)		BES	Т	BETT	ER	G00I	D
	Type 0	1 _		Type 01F					
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>				
225,22,774.2	01	45	2	3SG 46 HVX	662530 <b>55043</b>				
225x32x76,2	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>
	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>
050 40 00	01	63	6					86A 54 OVS D6	662530 <b>50139</b>
250x10x32	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>
	01	63	6					38A 60 MVS T6	699366 <b>75932</b>
000.40 00	01	63	6					86A 54 KVS M6	662530 <b>50123</b>
250x13x32	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>				
05000 00	01	45	1					38A 46 KVS	662530 <b>49918</b>
250x20x32	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







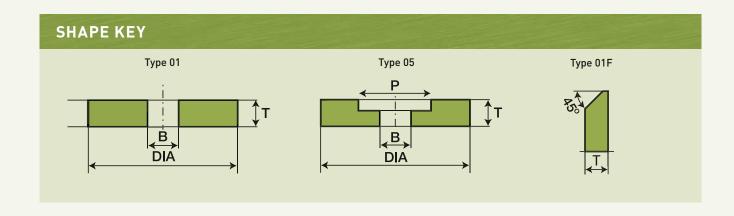
STRAI	GHT	WH	IEE	ELS (CONT	INUED)				
				INNOVA	TION				
DIM	SHAPE	MOS	PK	BES	Т	BETT	ER	G00	D
DIAxTxB(mm)		(M/S)	QIY	BES	T				
	■ Type 0	1							
	01	45	1	3SG 60 HVX	662530 <b>50363</b>	SGB 60 KVX	662530 <b>50160</b>	38A 60 JVS	662530 <b>51098</b>
	01	45	1					38A 60 KVS	662530 <b>49930</b>
	01	45	1					38A 60 LVS	662530 <b>49927</b>
250x25x32	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>
	01	45	1					38A 46 IVS	699366 <b>40283</b>
250x25x51	01	45	1					38A 46 KVS	662530 <b>49936</b>
	01	45	1					38A 60 KVS	662530 <b>49939</b>
	01	45	1					38A 46 KVS	662530 <b>49902</b>
250x25x76	01	45	1					38A 60 KVS	662530 <b>49905</b>
Z3UXZ3X76	01	45	1					38A 60 LVS	699366 <b>78984</b>
	01	45	1					38A 80 KVS	662530 <b>49907</b>
	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>
0500577.0	01	45	1	3SG 46 KVX	699366 <b>23668</b>	SGB 60 KVX	662530 <b>50126</b>	38A 46 LVS	699366 <b>23691</b>
250x25x76,2	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>
	01	45	1			SGB 60 KVX	662530 <b>50162</b>	38A 46 KVS	662530 <b>49909</b>
250x32x32	01	45	1					38A 60 KVS	662530 <b>49911</b>
230832832	01	45	1					38A 60 NVS	699366 <b>67158</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	000 // 100/	//05005555	COD (01/04)	//05005544	38A 60 LVS	699366 <b>75872</b>
	01	45	1	3SG 46 KVX	662530 <b>55050</b>	SGB 60 KVX	662530 <b>50132</b>	38A 46 LVS	699366 <b>23601</b>
300x25x127	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>5037</b>

STRA	IGHT	WH	IEE	LS (CONT	INUED)				
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	INNOVA BES		BETT	ER	G00	D
				BES	T				
	Туре	01							
	01	45	1					38A 46 NVS	699366 <b>7587</b>
300x32x32	01	45	1					38A 60 KVS	662530 <b>5110</b>
000 00 8/ 0	01	45	1					38A 60 NVS	699366 <b>3961</b>
300x32x76,2	01	45	1	IDA (O ELIZOVITV	//2520/0050	COD // E12VVD	/000// <b>5/50</b> F	38A 46 HVS	662530 <b>5025</b>
	01 01	45 45	1	IPA 60 EH20VTX IPA 60 XH20VTX	662530 <b>49858</b> 662530 <b>49861</b>	SGB 46 F12VXP SGB 46 HVX	699366 <b>76705</b> 662435 <b>70380</b>	38A 46 HVS 38A 60 LVS	699366 <b>7588</b>
300x32x127	01	45	1	3SG 60 KVX	662530 <b>55872</b>	SGB 46 IVX	662530 <b>50175</b>	30A 00 LV3	077300 <b>7300</b>
	01	45	1	330 00 NVX	002330 <b>33672</b>	SGB 60 KVX	699366 <b>76386</b>		
	01	45	1			30D 00 KVX	077300 <b>70300</b>	38A 46 KVS	662530 <b>510</b> 9
300x40x51	01	45	1					38A 60 KVS	6625304994
	01	45	1					38A 46 KVS	6625304994
300x40x76	01	45	1					38A 60 KVS	662530 <b>499</b>
000 10 51 0	01	45	1	IPA 60 EH20VTX	662530 <b>49863</b>				
300x40x76,2	01	45	1	IPA 60 XH20VTX	662530 <b>49866</b>				
	01	45	1	3SG 46 HVX	662530 <b>55893</b>	SGB 46 G12VXP	699366 <b>39946</b>	38A 46 IVS	662530 <b>4997</b>
300x40x127	01	45	1	3SG 60 KVX	662530 <b>55053</b>	SGB 60 KVX	662530 <b>50179</b>	38A 60 LVS	699366 <b>758</b> 9
	01	45	1					86A 54 G12VXP	662530 <b>515</b> 3
300x50x76,2	01	45	1					38A 46 IVS	662530 <b>502</b> 5
200	01	45	1	IPA 60 EH20VTX	662530 <b>49869</b>	SGB 46 G12VXP	662435 <b>70384</b>	38A 46 JVS	699366 <b>236</b> 4
300x50x127	01	45	1	IPA 60 XH20VTX	662530 <b>49872</b>			38A 60 KVS	662530 <b>545</b> 2
	01	45	1	IPA 60 EH20VTX	662530 <b>49873</b>	SGB 46 JVX	662530 <b>50118</b>	38A 60 LVS	699366 <b>759</b> 0
355x25x127	01	45	1	IPA 60 XH20VTX	662530 <b>49875</b>	SGB 60 LVX	662530 <b>50135</b>		
000/12/	01	45	1	3SG 60 LVX	662530 <b>55895</b>		0020000100		
355x30x127	01	45	1	000 00 2171	002000000	SGB 46 G11VXP	662530 <b>50177</b>		
355x32x127	01	45	1	3SG 60 KVX	662530 <b>55902</b>	SGB 54 E12VXP	699366 <b>76713</b>	38A 60 LVS	699366 <b>759</b>
OOOXOZX1Z7	01	45	1	000 00 11171	0020000702	30B 04 E121/II	07700070710	38A 46 KVS	662530 <b>513</b>
355x40x51									
	01	45	1	IDA (O ELIOOVEY)	//0500/0055	600 // 640 0/0	//0500/0004	38A 60 KVS	6625304996
	01	45	1	IPA 60 EH20VTX		SGB 46 G12VXP	662530 <b>49901</b>	38A 46 JVS	699366 <b>237</b> 5
355x40x127	01	45	1	IPA 60 XH20VTX	662530 <b>49879</b>	SGB 46 JVX	662530 <b>50117</b>	38A 60 LVS	699366 <b>759</b> 0
	01	45	1	3SG 46 HVX	662530 <b>55056</b>	SGB 80 I12VXP	662530 <b>55058</b>		
	01	45	1	3SG 60 LVX	662530 <b>55057</b>				
355x50x41	01	45	1					38A 46 KVS	662530 <b>499</b>
355x50x51	01	45	1					38A 60 KVS	662530 <b>511</b> 0
	01	45	1	IPA 60 EH20VTX	662530 <b>49880</b>	SGB 46 H11VXP	662530 <b>54500</b>	38A 46 IVS	699366 <b>759</b> 1
	01	45	1	IPA 60 XH20VTX	662530 <b>49883</b>	SGB 46 J12VX	699366 <b>23781</b>	38A 46 I11VXP	662530 <b>502</b> °
355x50x127	01	45	1	3SG 46 F12VXP	699366 <b>23900</b>	SGB 54 G12VXP	662530 <b>49857</b>	38A 46 KVS	662530 <b>511</b> 0
530X00X1Z7	01	45	1	3SG 46 HVX	662530 <b>55059</b>	SGB 60 KVX	662530 <b>50138</b>	38A 60 KVS	6625304995
						30D 00 KVX	0020000138		
	01	45	1	3SG 46 JVX	662530 <b>55063</b>			38A 80 KVS	662530 <b>499</b> 5





STRA	IGHT	WH	1EE	ELS (CONT	INUED)				
DIM DIAxTxB(mm)	SHAPE	MOS (M/S)		INNOVA BES BES	T	BETTER		G00	D
	Туре	01							
355x63x127	01	45	1					38A 46 KVS	662530 <b>49957</b>
333X03X1Z7	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>
	01	45	1	3SG 60 LVX	662530 <b>55086</b>	SGB 60 KVX	662530 <b>49843</b>	38A 46 JVS	662434 <b>66541</b>
406x40x127	01	45	1					38A 46 KVS	662530 <b>55066</b>
4U6X4UX1Z7	01	45	1					38A 60 LVS	662434 <b>66542</b>
	01	45	1					38A 80 KVS	662530 <b>55069</b>
	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>
406x50x127	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>				
	01	45	1					38A 46 KVS	662530 <b>55078</b>
406x50x203	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>



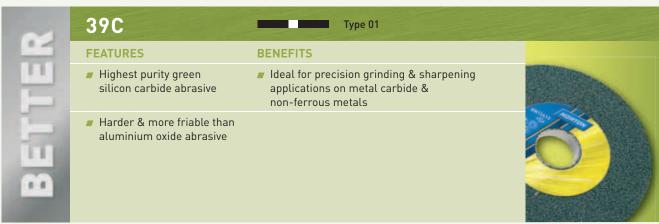
# **NON-FERROUS PRECISION GRINDING WHEELS**

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





# **DIAMOND DRESSING**

Norton offers an extensive range of complimentary diamond dressing solutions For more information see page 364







DIM IAxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	GO	OD	DIM  DxTxB(mm)	SHAPE	MOS (M/S)	PK QTY	GOOD			
	Туре	01				Type 01							
76x25x12,7	01	45	10	39C 80 IV	662530 <b>52726</b>		01	45	2	39C 80 KVS	662530 <b>50</b> 2		
76x25x12,7	01	45	10	39C 80 IV	662530 <b>50168</b>	200x25x32	01	45	2	39C 100 JVS	662530 <b>503</b>		
80x25x12,7	01	45	10	39C 60 MV	662530 <b>51624</b>	200723732	01	45	2	39C 120 KVS	699366 <b>41</b> 4		
80x25x13	01	45	10	39C 60 MV	662530 <b>51623</b>		01	45	2	39C 60 KVS	699366 <b>75</b>		
00/20/10	01	45	2	39C 80 LVS	662530 <b>50380</b>	200x25x76,2	01	45	2	39C 80 LVS	699366 <b>75</b>		
100x10x32	01	45	2	39C 120 KVS	662530 <b>49701</b>	200,200,70,2	01	45	2	39C 120 KVS	699366 <b>75</b>		
125x13x32	01	45	2	39C 80 KVS	66253049896		01	45	2	39C 60 KVS	699366 <b>40</b>		
125x16x32	01	45	2	39C 80 LVS	662530 <b>50393</b>	200x32x32	01	45	2	39C 80 KVS	699366 <b>67</b>		
125x20x32	01	45	2	39C 80 LVS	699366 <b>67443</b>	ZOOKOZKOZ	01	45	2	39C 120 KVS	699366 <b>75</b>		
150x4x32	01	45	2	39C 120 KVS	662530 <b>50248</b>	200x32x51	01	45	2	39C 60 KVS	699366 <b>41</b>		
	01	45	2	39C 100 KVS	662530 <b>50377</b>	200/02/01	01	45	2	39C 60 KVS	699366 <b>75</b>		
150x6x32	01	45	2	39C 120 KVS	699366 <b>75617</b>	200x32x76,2	01	45	2	39C 80 KVS	699366 <b>75</b>		
	01	45	2	39C 80 KVS	662530 <b>50357</b>	200/02/10,2	01	45	2	39C 120 KVS	699366 <b>75</b>		
150x10x32	01	45	2	39C 120 KVS	699366 <b>75629</b>	200x6x32	01	45	2	39C 120 KVS	699366 <b>75</b>		
150x13x32	01	45	2	39C 80 KVS	662530 <b>49897</b>	225x25x32	01	45	2	39C 60 LVS	699366 <b>67</b>		
100010002	01	45	2	39C 60 KVS	699366 <b>75656</b>	225x32x32	01	45	2	39C 80 KVS	699366 <b>67</b>		
150x16x32	01	45	2	39C 120 KVS	699366 <b>75659</b>	250x13x32	01	45	1	39C 36 KV	699366 <b>55</b>		
	01	45	2	39C 80 LVS	699366 <b>75657</b>	230713732	01	45	1	39C 60 KV	66253049		
150x20x20	01	45	2	39C 60 JV	662530 <b>51383</b>		01	45	1	39C 60 LVS	699366 <b>67</b>		
130,20,20	01 45 2 39C 60 KVS 699366 <b>41411</b>	250x25x32	01	45	1	39C 80 KV	662530 <b>50</b>						
	01	45	2	39C 80 LVS	699366 <b>41413</b>		01	45	1	39C 80 LVS	699366 <b>75</b>		
150x20x32	01	45	2	39C 100 JVS	662530 <b>50300</b>		01	45	1	39C 54 MVS	699366 <b>23</b>		
	01	45	2	39C 120 KVS	699366 <b>41414</b>	250x25x76,2	01	45	1	39C 100 KVS	699366 <b>23</b>		
	01	45	2	39C 60 KVS	699366 <b>75661</b>		01	45	1	39C 60 KVS	699366 <b>39</b>		
150x25x32	01	45	2	39C 80 KVS	662530 <b>50278</b>	250x32x32	01	45	1	39C 80 KVS	69936640		
130823832	01	45	2	39C 120 KVS	699366 <b>75664</b>		01	45	1	39C 60 KVS	699366 <b>23</b>		
	01	45	2	39C 60 KVS	699366 <b>41415</b>	300x25x127	01	45	1	39C 80 JVS	69936640		
180x20x32	01	45		39C 80 LVS		3000238127							
TOUXZUX3Z	01	45 45	2	39C 80 LVS 39C 120 KVS	699366 <b>76582</b> 699366 <b>75666</b>	300x32x127	01	45 45	1	39C 100 KVS 39C 60 KVS	699366 <b>23</b>		
	01	45	2	39C 60 KVS	699366 <b>75667</b>	300X3ZX1Z/	01	45	1	39C 60 KVS	699366 <b>39</b>		
180x25x32	01		2	39C 80 KVS		300x40x32		45	1	39C 80 KVS			
200~10~22		45 45		39C 80 LVS	699366 <b>67101</b>	200v/0v7/	01				699366 <b>76</b>		
200x10x32	01		2		699366 <b>75637</b>	300x40x76	01	45	1	39C 90 KVS	699366 <b>39</b>		
200x13x32	01	45 45	2	39C 80 JVS	699366 <b>76152</b>	200~/0~127	01	45	1	39C 46 KV	662530 <b>50</b>		
200x20x20	01	45 45	2	39C 80 KVS	699366 <b>41417</b>	300x40x127	01	45	1	39C 60 KVS	699366 <b>75</b>		
	01	45 45	2	39C 80 MVS	699366 <b>40220</b>		01	45	1	39C 80 KVS	699366 <b>75</b>		
	01	45 45	2	39C 60 KVS	699366 <b>41418</b>	355x32x127	01	45	1	39C 60 KVS	699366 <b>75</b>		
200x20x32	01	45 45	2	39C 80 KVS	699366 <b>76351</b>	255/0127	01	45	1	39C 80 KVS	699366 <b>75</b>		
	01	45	2	39C 100 JVS	662530 <b>50389</b>	355x40x127	01	45	1	39C 60 KVS	699366 <b>75</b>		
200,20,51	01	45	2	39C 120 KVS	699366 <b>41421</b>	406X40X127	01	45	1	39C 80 KVS	662434 <b>66</b>		
200x20x51	01	45	2	39C 60 KVS	699366 <b>40176</b>								
00x20x76,2	01	45	2	39C 80 LVS	699366 <b>75671</b>								
200x25x32	01	45	2	39C 46 LVS	699366 <b>75639</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.

Vitrified bench grinding wheels are used for off-hand tool sharpening and grinding.

## **APPLICATIONS & MARKETS**

- Sharpening
- Tool room





	A	Type 01	
3)	FEATURES	BENEFITS	
	Regular brown aluminium oxide abrasive	Very tough, suitable for grinding most types of steel & soft iron	
	Contains 3% titanium oxide	Good cost/performance compromise	
•	<ul> <li>Unique, self sharpening, microcrystalline structure</li> </ul>	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



STRA	GH	T W	HEELS								
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>							
	45	2	A 36 PVS	699366 <b>75559</b>							
150x16x32	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>							
	45	2	A 24 RVS	699366 <b>66911</b>							
	45	2	A 36 PVS	699366 <b>41366</b>							
150x20x32	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>							





DIM	MOS		G	00D	DIM	MOS	PK	G	OOD
IAxTxB(mm)	(M/S)	Type	01	DIAxTxB(mm)	(M/S)		11		
		Type	01				Type (		
	45	2	A 36 PVS	699366 <b>66914</b>	250x40x32	45	1	A 36 QVS	699366 <b>6694</b>
150x25x32	45	2	A 36 QVS	662530 <b>50265</b>		45	1	A 60 NVS	699366 <b>6694</b>
	45	2	A 46 NVS	699366 <b>41370</b>		45	1	A 24 QVS	699366 <b>7557</b>
80x20x31,75	45	2	A 46 NVS	699366 <b>23305</b>	300x32x32	45	1	A 36 OVS	699366 <b>7557</b>
180x20x32	45	2	A 46 NVS	699366 <b>41372</b>		45	1	A 60 KVS	662530 <b>5109</b>
	45	2	A 60 NVS	699366 <b>80380</b>	300x32x50,8	45	1	A 24 QVS	699366 <b>7557</b>
	45	2	A 24 RVS	699366 <b>66922</b>		45	1	A 46 NVS	699366 <b>7557</b>
	45	2	A 30 PVS	699366 <b>39691</b>		45	1	A 24 QVS	699366 <b>7557</b>
180x25x32	45	2	A 36 QVS	699366 <b>66923</b>	300x32x127	45	1	A 36 OVS	699366 <b>7558</b>
	45	2	A 46 NVS	699366 <b>75564</b>		45	1	A 46 NVS	699366 <b>7558</b>
	45	2	A 60 NVS	699366 <b>76609</b>	300x40x30	45	1	A 36 PVS	699366 <b>817</b> 3
	45	2	A 24 RVS	699366 <b>66926</b>		45	1	A 60 NVS	699366 <b>817</b> 3
	45	2	A 30 PVS	699366 <b>75566</b>	300x40x32	45	1	A 46 NVS	699366 <b>3968</b>
200x20x32	45	2	A 36 QVS	699366 <b>66928</b>		45	1	A 60 MVS	699366 <b>4022</b>
	45	2	A 46 NVS	699366 <b>41375</b>	300x40x50	45	1	A 90 OVS	699366 <b>407</b> 8
	45	2	A 60 NVS	699366 <b>66929</b>	300x40x50,8	45	1	A 60 NVS	699366 <b>236</b>
200x25x32	45	2	A 24 RVS	699366 <b>76374</b>	300x40x51	45	1	A 24 PVS	662530 <b>510</b> 9
	45	2	A 30 PVS	699366 <b>41382</b>		45	1	A 60 KVS	662530 <b>510</b> 9
	45	2	A 36 PVS	699366 <b>41383</b>	300x40x76	45	1	A 60 NVS	699366 <b>396</b>
	45	2	A 36 QVS	662530 <b>50267</b>	300x40x76,2	45	1	A 36 OVS	699366 <b>756</b> 0
	45	2	A 46 MVS	662530 <b>50271</b>		45	1	A 24 QVS	699366 <b>755</b> 8
	45	2	A 60 NVS	699366 <b>93708</b>	300x40x127	45	1	A 36 OVS	699366 <b>7558</b>
	45	2	A 30 PVS	699366 <b>75567</b>		45	1	A 46 NVS	699366 <b>7558</b>
200x25x76,2	45	2	A 46 NVS	699366 <b>75568</b>		45	1	A 24 QVS	699366 <b>397</b> 6
	45	2	A 60 NVS	699366 <b>75569</b>	300x50x32	45	1	A 36 OVS	699366 <b>818</b> 2
	45	2	A 24 RVS	699366 <b>66930</b>	000,000,02	45	1	A 46 NVS	662435 <b>704</b> 6
	45	2	A 36 PVS	699366 <b>66932</b>		45	1	A 60 NVS	662435 <b>7048</b>
200x32x32	45	2	A 46 NVS	699366 <b>40814</b>	350x40x35	45	1	A 36 QVS	699366 <b>817</b> 3
	45	2	A 60 NVS	699366 <b>90246</b>		45	1	A 24 RVS	699366 <b>817</b> 4
200x32x51	45	2	A 60 NVS	699366 <b>40748</b>	350x50x35	45	1	A 36 QVS	699366 <b>817</b> 4
200x32x76,2	45	2	A 46 NVS	662435 <b>93707</b>		45	1	A 60 NVS	699366 <b>817</b> 4
23.02 0,2	45	2	A 36 QVS	699366 <b>66938</b>	355x40x127	45	1	A 24 QVS	699366 <b>7558</b>
225x32x32	45	2	A 60 NVS	699366 <b>94426</b>	000A-0A127	45	1	A 46 NVS	699366 <b>7558</b>
	45	1	A 36 PVS	699366 <b>66940</b>	355x45x127	45	1	A 36 OVS	699366 <b>760</b> 1
250x25x32	45	1	A 46 NVS	699366 <b>41386</b>	000A+0A1Z/	45	1	A 46 NVS	699366 <b>759</b> 1
	45	1	A 24 QVS	699366 <b>66942</b>		45	1	A 24 QVS	699366 <b>7558</b>
		1		699366 <b>75572</b>	355x50x127	45	1	A 36 OVS	699366 <b>7558</b>
050 00 00	45 45		A 30 PVS			45	1	A 46 NVS	699366 <b>755</b> 9
250x32x32	45 /5	1	A 36 PVS	699366 <b>66943</b>	406x40x50,8	45	1	A 24 QVS	699366 <b>943</b> 6
	45 45	1	A 46 NVS	699366 <b>40194</b> 699366 <b>42130</b>	406x50x50	45	1	A 24 QVS	662434 <b>4817</b>
		1	A 60 MVS						

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.

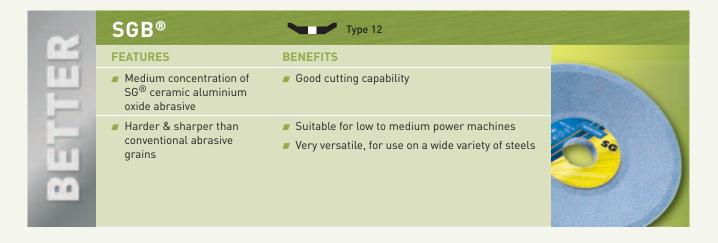
Manufactured using Norton's market leading abrasives technology, vitrified dishes are designed to maximise performance and productivity in sharpening applications.

#### **APPLICATIONS & MARKETS**

Sharpening









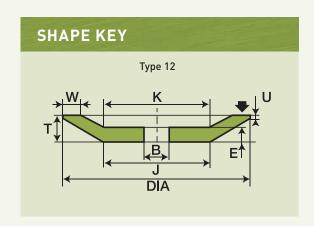


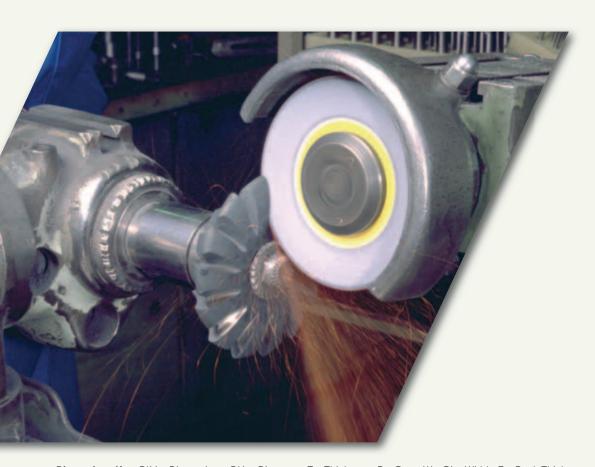


METAL PRECISION													
DIM DIAxTxB (mm)	W (mm)	E (mm)	J (mm)	K (mm)	U (mm)	MOS (M/S)	PK QTY	BEST BETTER		GOOD			
Type 12													
76x8x12,7	5	8	25	25	1	45	10					38A 80 MVS	699366 <b>23916</b>
80x10x13	4	6	35	35	2,5	45	10					38A 60 LVS	699366 <b>88738</b>
100x13x12,7	5	7	45	50	2,5	45	2					38A 60 KVS	699366 <b>24605</b>
100x13x20	5	7	41	41	3,2	45	2	3SG 60 KVX	662530 <b>50236</b>	SGB 60 LVX	699366 <b>86659</b>	38A 60 KVS	699366 <b>86186</b>
100x13x20	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>
123213320	6	7	61	61	3,2	45	2	3SG 60 KVX	662530 <b>50242</b>				
150x13x20	7	9	86	86	3,2	45	2	3SG 46 KVX	662530 <b>50143</b>			38A 60 KVS	699366 <b>86199</b>
130/13/20	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>
130x13x20	8	9	56	56	3,2	45	2			SGB 60 LVX	699366 <b>82791</b>		
	7	9	86	86	3,2	45	2	3SG 46 KVX	662530 <b>50238</b>			38A 46 KVS	699366 <b>86194</b>
150x13x32	7	9	86	86	3,2	45	2	3SG 60 KVX	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 KVX	662530 <b>50256</b>	38A 60 KVS	699366 <b>82252</b>
150x16x32	8	9	66	66	3,2	45	2	3SG 46 KVX	662530 <b>50141</b>			38A 60 KVS	699366 <b>88577</b>
130x10x32	8	9	66	66	3,2	45	2	3SG 60 KVX	662530 <b>50232</b>	SGB 60 KVX	662530 <b>50245</b>		
180x16x32	9	10	96	96	3,2	45	2			SGB 60 KVX	662530 <b>50247</b>		
180x20x32	9	11	70	70	3,2	45	2	3SG 54 KVX	662530 <b>50234</b>	SGB 54 KVX	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>
ZUUXZUX3Z	10	12	90	90	3,2	45	2			SGB 60 KVX	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 W E J K U MOS PK GOOD						OOD				
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>	





**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





NOTES	

Manufactured with the Norton's leading technology, vitrified cups are designed to maximise performance and productivity for sharpening applications.

#### **APPLICATIONS & MARKETS**

Sharpening











38A	Type 06 Type 11
FEATURES	BENEFITS
High purity white aluminium oxide abrasive	Cool & burn free cutting
Friable abrasive	Ideal for heat-sensitive applications with light to moderate feed rates
86A	Type 06 Type 11
FEATURES	BENEFITS
Highly refined pink aluminium oxide abrasive	■ Very versatile
Tougher abrasive than pure white aluminium oxide	Reduced dress frequency
Contains a small portion of chromium oxide	

DILL					INNOV	ATION				
DIM DIAxTxB	W	Ε	MOS	PK		ST	BET	TER	GO:	OD
(mm)	(mm)	(mm)	(M/S)	QTY	BE	ST				
	Тур	e 06								
63x40x20	10	10	45	10					38A 60 KVS	699366 <b>7485</b>
	6	8	63	6					38A 60 MVS M6	699366 <b>7480</b>
	6	10	45	10			SGB 60 JVX	662435 <b>70391</b>		
80x40x20	8	8	63	6					38A 60 KVS T6	699366 <b>748</b> 1
	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>7485</b>
100x40x32	13	13	45	2					38A 60 KVS	699366 <b>7485</b>
100x50x19,8	11	11	45	2					38A 120 KVS	699366 <b>2369</b>
	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>441</b> 9
	10	10	45	2	3SG 60 JVX	662530 <b>50069</b>			38A 60 JVS	699366 <b>748</b> 6
100x50x20	10	10	45	2	3SG 60 KVX	662530 <b>49965</b>			38A 60 KVS	699366 <b>748</b> !
	10	10	45	2	3SG 70 KVX	662530 <b>50067</b>			38A 80 JVS	699366 <b>396</b> 1
	10	13	45	2	3SG 60 LVX	662530 <b>49960</b>			38A 60 LVS	699366 <b>394</b>
	10	13	45	2	3SG 80 LVX	662530 <b>49966</b>			38A 60 MVS	699366 <b>394</b> 6
	10	13	45	2	ECC /0 I//V	//252050070			38A 80 KVS	699366 <b>394</b> 3
100x50x32	10	10	45 45	2	5SG 60 KVX 3SG 46 JVX	662530 <b>50070</b> 662530 <b>50072</b>			38A 60 KVS	699366 <b>748</b> !
100x30x32	10	10	45	2	3SG 60 KVX	662530 <b>50072</b>				
	10	13	45	2	330 00 NVX	002330 <b>30073</b>			38A 60 LVS	699366 <b>399</b> 9
125x50x32	13	13	45	2	3SG 46 JVX	699366 <b>76356</b>	SGB 60 JVX	662530 <b>50075</b>	38A 46 KVS	699366 <b>748</b> 6
	8	13	45	2	000 40 3177	0,,000,000	202 00 317	0020000070	38A 46 KVS	6625304995
	10	10	45	2					86A 46 E12 VXP	662530 <b>515</b> 2
125x63x32	10	13	45	2			SGB 60 KVX	699366 <b>40579</b>		
	13	16	45	2					86A 46 G12 VXP	662530 <b>515</b> 2
150x32x32	35	12	45	2					38A 60 LVS	699366 <b>402</b> 9
150x32x60	32	13	45	2					38A 60 MVS	699366 <b>748</b>
150 (0.00	16	13	45	2					38A 46 HVS	699366 <b>748</b>
150x40x32	16	13	45	2					38A 60 KVS	699366 <b>748</b>
150,50,22	16	16	45	2	3SG 46 KVX	662530 <b>50068</b>	SGB 46 KVX	662530 <b>50093</b>	38A 46 JVS	699366 <b>761</b> 3
150x50x32	16	16	45	2			SGB 60 KVX	662530 <b>50076</b>	38A 60 KVS	699366 <b>748</b>
150x50x65	20	16	45	2					38A 60 LVS	699366 <b>394</b> 8
150x60x32	10	16	45	2			SGB 54 KVX	662530 <b>50099</b>		
	16	16	45	2			SGB 46 JVX	662530 <b>54727</b>	38A 36 IVS	699366 <b>403</b>
150x63x32	16	16	45	2					38A 46 HVS	699366 <b>749</b>
	16	16	45	2					38A 46 JVS	699366 <b>748</b> 8
150x63x50,8	16	16	45	2			SGB 36 HVX	662530 <b>50080</b>		
3UX63X3U,8	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





META	METAL PRECISION (CONTINUED)											
DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	BE	ST	BET	TER	GOOD			
	Type 06											
150x80x32	20	20	45	2			SGB 46 G12 VXP	699366 <b>76357</b>	38A 46 HVS	699366 <b>74905</b>		
130000032	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>		
173873870,2	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>		
	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>		
180x76x78	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>		
400.00.00	13	10	45	2			SGB 46 G12 VXP	699366 <b>40451</b>				
180x80x32	16	16	45	2					38A 46 HVS	699366 <b>74889</b>		
000 (0.00	45	15	45	2					38A 46 LVS	662435 <b>70536</b>		
200x40x32	45	15	45	2					38A 60 LVS	662435 <b>70537</b>		
000 /0 5/ 0	40	13	45	2			SGB 46 LVX	662530 <b>50085</b>	38A 46 KVS	699366 <b>74880</b>		
200x40x76,2	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>		
000 00 50	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>		
200x82x78	16	20	45	2					38A 36 IVS	699366 <b>39387</b>		
200x100x32	20	25	45	2			SGB 46 G12 VXP	699366 <b>40271</b>				

META	L P	RE	CIS	101	V (CONTIN	IUED)				
DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	INNOVATION  BEST  BEST		ВЕТ	TER	GO:	OD
00-22-20	6	8	45	6			SGB 46 KVX	662530 <b>50125</b>	38A 60 KVS	699366 <b>82483</b>
80x32x20	6	8	45	6			SGB 60 LVX	662530 <b>50137</b>		
80x40x20	8	10	45	6	ES5 80 JVX	662530 <b>50109</b>				
	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>
100x40x20	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>				
	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>
100x40x32	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>
	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>
105/022	8	10	45	2	3SG 60 KVX	662530 <b>50116</b>			38A 60 JVS	662530 <b>50104</b>
125x40x32	8	10	45	2					38A 60 KVS	699366 <b>86176</b>
	8	10	45	2					38A 80 KVS	662530 <b>50106</b>
105/520	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>
125x45x20	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	6993668 <b>2567</b>
	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>
1505000	10	13	45	2			SGB 46 JVX	662530 <b>50133</b>	38A 60 KVS	699366 <b>82576</b>
150x50x32	10	13	45	2			SGB 54 KVX	662530 <b>50140</b>		
	10	13	45	2			SGB 60 KVX	662530 <b>50134</b>		

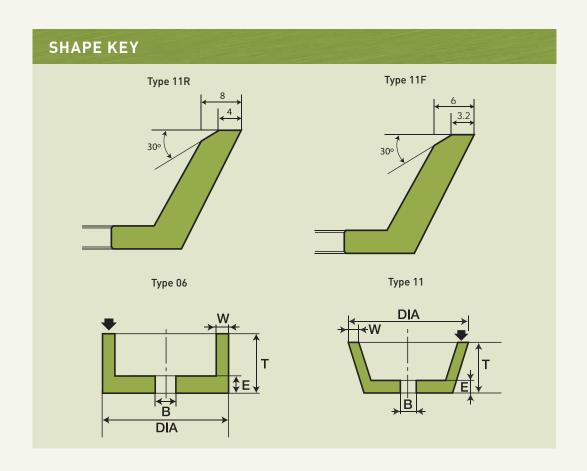
<sup>\*</sup>Type 11R \*\*Type11F

NON-	NON-FERROUS PRECISION											
DIM DIAxTxB (mm)	W (mm)	E (mm)	MOS (M/S)	PK QTY	GOOD							
	Тур	e 06										
100,-50,-20	10	10	45	2	39C 80 KV	699366 <b>68290</b>						
100x50x20	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>						
	40	13	45	2	39C 60 JV	699366 <b>68347</b>						
200x40x76,2	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









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



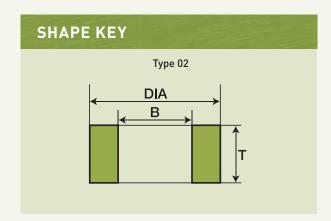








CYLINDERS										
DIM DIAxTxB(mm)	PK QTY	MOS (M/S)	ВЕТ	TER	GO	GOOD				
	Type 02									
127x50x101,6	2	45			38A 46 IVS	699366 <b>23695</b>				
152,4x50x127	2	45			38A 36 IVS	699366 <b>23639</b>				
200x100x160	2	45	SGB 46 HVX	699366 <b>86693</b>	38A 46 GVS	699366 <b>86231</b>				
254x100x204	1	45			38A 46 GVS	699366 <b>86297</b>				
457x125x377	1	45			38A 30 HVS	662434 <b>65839</b>				





**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









38A	Type 31	
FEATURES	BENEFITS	
High purity white aluminium oxide abrasive	Cool & burn free cutting	
■ Friable abrasive	Ideal for heat-sensitive applications with light to moderate feed rates	
86A	Type 31	
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		7
19A	Type 31	
FEATURES	BENEFITS	
A blend of A & 38A abrasives	■ Very versatile, for use on a wide variety of steels	
Primarily used in saw	Very good yield, good removal rate	
grinding applications	Good balance between cut rate & form holding ability	
37C	Type 31	
FEATURES	BENEFITS	
High purity black silicon carbide abrasive	<ul> <li>Suitable for roughing operations in coarse grit &amp; resinoid wheels</li> </ul>	
Harder & more friable than aluminum oxide abrasive	Ideal for grinding & sharpening applications on metal carbide & non-ferrous metals	

#### **METAL PRECISION** Type 31 **SEGMENT** PK **BEST** GOOD QTY R(mm) 4 38A 30 IVS SA 150x80x25 69936686253 SB 100x65x25 56,9 205 4 86A 30 IV TECH 662530**50274** SB 200x103x38 84,8 228,6 4 5SG 46 G12 VXP 662530**55947** 38A 24 F12 VXP 69936625436 4 38A 30 G12 VXP SC 190x112,3x44,4 78,6 381 662530**50262** 110x70x20 47 100 4 86A 36 IV TECH 662530**50288** SD 100 86A 46 HV TECH 110x70x20 47 4 662530**50272** 91 38A 36 IVS 90x50x16 4 3SG 36 IVX 662530**55949** 69936688543 45 SE 4 3SG 46 HVX 38A 46 HVS 90x50x16 45 91 662530**50277** 69936682335 110x53,5x16 47 89 4 38A 36 IVS 699366**88485** SE 110x53,5x16 47 89 4 38A 46 HVS 69936688614 S0 60x65x20 58 4 86A 36 IV TECH 662530**50269** 38A 36 HVS 90x42x20 38 4 3SG 46 HVX 662530**50279** 699366**86257** S0 90x42x20 38 4 38A 46 HVS 69936686263 90x42x20 38 4 38A 60 GVS 699366**86264** 110x50x25 43,5 4 3SG 46 GVX 662530**50281** 38A 46 GVS 699366**86266** 699366**86267** S0 662530**50282** 38A 60 GVS 110x50x25 43,5 4 3SG 60 GVX 110x50x25 43,5 19A 54 IVS 69936686249 4 S0 110x60x22 54 4 3SG 36 HVX 662530**50266** 38A 36 HVS 699366**82248** S0 110x70x25 4 38A 36 IVS 699366**82640** 64 121x59,5x21 48 4 38A 30 HVS 699366**24796** 4 S0 121x59,5x21 48 38A 36 IVS 699366**82231** 121x59,5x21 48 4 86A 46 HV TECH 662530**50264** 150x70x25 64 4 3SG 36 E12 VXP 699366**88295** 38A 30 IVS 699366**82296** S0 150x70x25 64 4 3SG 36 HVX 662530**50285** 38A 36 IVS 699366**86248** 38A 30 IVS S0 180x103x38 94 3SG 36 HVX 66253050287 69936686273

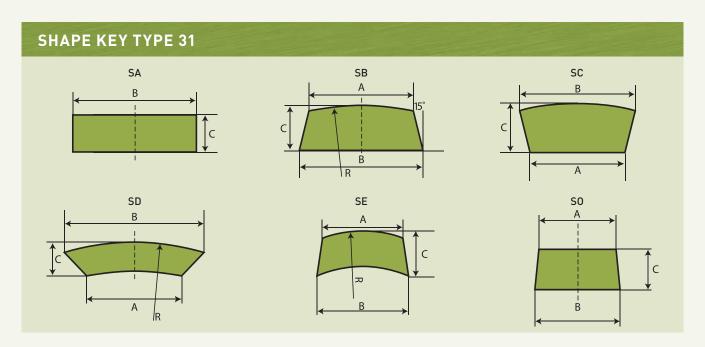


Dimensions Key: DIM = Dimensions, L = Length, B = Width, C = Thickness, A = Segment, R = Segment External Radius





#### **NON-FERROUS PRECISION** Type 31 **SEGMENT** PK DIM **SHAPE** GOOD QTY A(mm) R(mm) SB 100x65x25 56,9 205 4 37C 30 HV 699366**88426** S0 110x70x25 4 37C 24 IV 64 699366**83895**



## **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



# FEATURE Highly ralumini Toughe alumini Good pr

86A		
FEATURES	BENEFITS	
<ul> <li>Highly refined pink aluminium oxide abrasive</li> </ul>	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		

МО	MOUNTED POINTS SHAPE A										
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GO	OD					
A1	22x70	6x40	14000	10	86A 36 PVS	662530 <b>55235</b>					
AI	22x70	6x40	14000	10	86A 60 PVS	662530 <b>55218</b>					
A3	20x65	6x40	15000	10	86A 30 PVS	662530 <b>55021</b>					
A3	20x65	6x40	15000	10	86A 60 PVS	662530 <b>55212</b>					
۸./	30x30	6x40	20000	10	86A 36 PVS	662530 <b>55179</b>					
Α4	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>					
4.0	20x50	6x40	18000	10	86A 36 PVS	662530 <b>55308</b>					
A8	20x50	6x40	18000	10	86A 60 PVS	662530 <b>55877</b>					
Α9	30x50	6x40	13000	10	86A 30 PVS	662530 <b>55395</b>					
A10	22x70	6x40	14000	10	86A 36 PVS	662530 <b>55237</b>					
	21x45	6x40	18000	10	86A 30 PVS	662530 <b>55307</b>					
A 1 1	21x45	6x40	18000	10	86A 36 PVS	662530 <b>55095</b>					
A11	21x45	6x40	18000	10	86A 46 PVS	662530 <b>55023</b>					
	21x45	6x40	18000	20	86A 60 PVS	662530 <b>55214</b>					



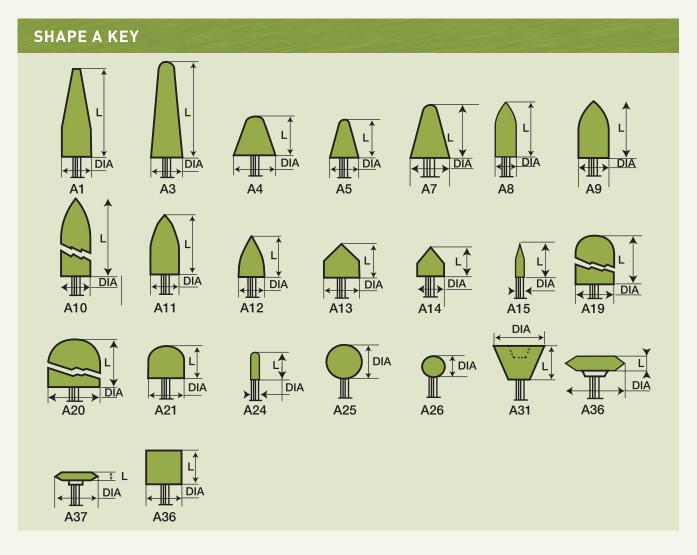


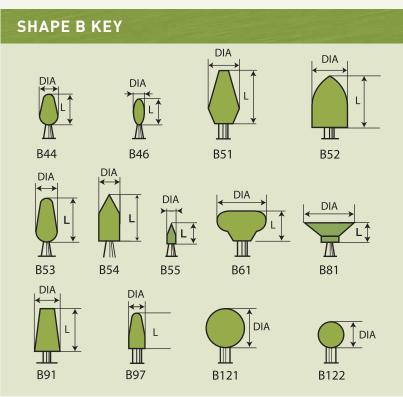
MOL	JNTED	POINTS	SH	ΑP	E A (CONTINUED)	
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GO	OD
A12	18x30	6x40	30000	10	86A 36 PVS	662530 <b>54962</b>
AIZ	20x32	6x40	30000	10	86A 60 PVS	662530 <b>55096</b>
A13	25x25	6x40	25000	10	86A 60 PVS	662530 <b>55125</b>
A14	18x22	6x40	35000	10	86A 60 PVS	662530 <b>55180</b>
A15	6x25	6x40	30000	10	86A 90 PVS	662530 <b>55126</b>
A19	30x50	6x40	13000	10	86A 36 PVS	662530 <b>54960</b>
A17	30x50	6x40	13000	10	86A 60 PVS	662530 <b>54961</b>
A20	40x50	6x40	10000	10	86A 36 PVS	662530 <b>54963</b>
A21	25x25	6x40	25000	10	86A 36 PVS	662530 <b>55238</b>
AZI	25x25	6x40	25000	10	86A 60 PVS	662530 <b>54965</b>
A24	6x20	6x40	41000	10	86A 60 PVS	662530 <b>55127</b>
AZ4	6x20	6x40	41000	10	86A 90 PVS	662530 <b>55311</b>
A25	25x25	6x40	25000	10	86A 60 PVS	662530 <b>55128</b>
A26	16x16	6x40	54000	10	86A 46 PVS	662530 <b>55204</b>
AZO	16x16	6x40	54000	10	86A 90 PVS	662530 <b>54952</b>
427	40x10	6x40	25000	10	86A 60 PVS	662530 <b>55129</b>
A36	40x10	6x40	25000	10	86A 90 PVS	662530 <b>54968</b>
A37	30x6	6x40	30000	10	86A 90 PVS	662530 <b>55313</b>
A38	25x25	6x40	25000	10	86A 60 PVS	662530 <b>54946</b>

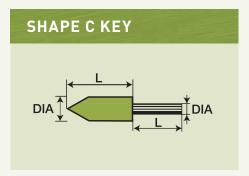
MO	MOUNTED POINTS SHAPE B										
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	GO	OD					
B44	6x10	3x40	61000	10	86A 90 PVS	662530 <b>55183</b>					
B46	3x8	3x40	90000	10	86A 90 PVS	662530 <b>55185</b>					
B51	11x20	3x40	41000	10	86A 90 PVS	662530 <b>55402</b>					
B52	10x20	3x40	41000	10	86A 90 PVS	662530 <b>55232</b>					
B53	6x16	3x40	54000	10	86A 90 PVS	662530 <b>55305</b>					
B33	6x16	3x40	54000	10	86A 120 PVS	662530 <b>55090</b>					
B54	6x13	3x40	54000	10	86A 90 PVS	662530 <b>55139</b>					
B55	3x6	3x40	90000	10	86A 90 PVS	662530 <b>55401</b>					
B61	20x8	3x40	47000	10	86A 90 PVS	662530 <b>55020</b>					
B81	20x4	3x40	47000	10	86A 90 PVS	662530 <b>55140</b>					
B91	13x16	3x40	58000	10	86A 90 PVS	662530 <b>55199</b>					
B97	3x10	3x40	90000	10	86A 90 PVS	662530 <b>55141</b>					
B121	13x13	3x40	58000	10	86A 90 PVS	662530 <b>55143</b>					
B123	5x5	3x40	73000	10	86A 90 PVS	662530 <b>55207</b>					

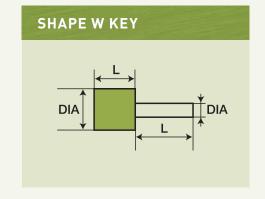
MOUNTED POINTS SHAPE C						
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)		GO	OD
00/0	16x32	6x40	25000	10	86A 90 PVS	662530 <b>55217</b>
C262	16x32	6x40	25000	10	86A 150 PVS	662530 <b>55025</b>
C263	20x32	6x40	30000	10	86A 60 PVS	662530 <b>55177</b>

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length











MOI	UNTED	WHEEL	S			
SHAPE	DIM	SPINDLE	MOS	PK	GO	OD.
SHAFE	DIAxL(mm)	DIAxL(mm)	(RPM)	QTY		
	3x6	3x40	90000	10	86A 60 PVS	662530 <b>55396</b>
W144	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>
	13x20	6x40	48000	10	86A 46 PVS	662530 <b>55250</b>
W186	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>
	16x20	3x40	47000	10	86A 46 PVS	662530 <b>55351</b>
W195	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 POINTS & WHEELS**

MOI	MOUNTED WHEELS (CONTINUED)						
SHAPE	DIM DIAxL(mm)	SPINDLE DIAXL(mm)	MOS (RPM)	PK QTY	GO	OD	
	20x25	6x40	32000	10	86A 36 PVS	662530 <b>54948</b>	
W205	20x25	6x40	32000	10	86A 60 PVS	662530 <b>55135</b>	
	20x23	6x40	30000	10	86A 36 PVS	662530 <b>55233</b>	
W206	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>	
***	25x25	6x40	25000	10	86A 36 PVS	662530 <b>55231</b>	
W220	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>	
	32x20	6x40	24000	10	86A 36 PVS	662530 <b>55017</b>	
W228	32x20	6x40	24000	10	86A 60 PVS	662530 <b>55087</b>	
	32x32	6x40	17000	10	86A 36 PVS	662530 <b>55221</b>	
W230	32x32	6x40	17000	10	86A 46 PVS	662530 <b>55064</b>	
	32x32	6x40	17000	10	86A 60 PVS	662530 <b>55138</b>	
	32x50	6x40	11000	10	86A 36 PVS	662530 <b>55252</b>	
W232	32x50	6x40	11000	10	86A 60 PVS	662530 <b>55300</b>	
	40x13	6x40	25000	10	86A 46 PVS	662530 <b>55224</b>	
W236	40x13	6x40	25000	10	86A 60 PVS	662530 <b>55304</b>	
	40x13	6x40	25000	10	86A 90 PVS	662530 <b>55301</b>	
W227	40x25	6x40	19000	10	86A 36 PVS	662530 <b>55215</b>	
W237	40x25	6x40	19000	10	86A 46 PVS	662530 <b>55093</b>	
W238	40x40	6x40	12000	10	86A 36 PVS	662530 <b>55019</b>	
VV Z 3 8	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





NOTES			



## **DRESSING STICKS**

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

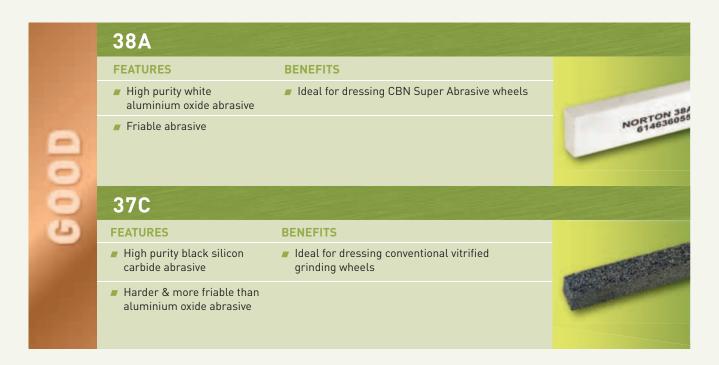


NORBIDE	BENEFITS	
TEATORES		
Manufactured from	Excellent chemical & wear resistance	
sintered boron carbide	Long product life, reduced maintenance & less downtime	
■ Extremely hard & very dense	Suitable also for dressing tool & cutter wheels 200mm & smaller, especially cup & dish shapes	NORBIDE STIKE









DRESS	ING	STICKS FOR SUPER ABRAS	SIVE GRINDING WHEELS
	RECT	ANGULAR	
DIM WxHxL(mm)	PK QTY	GO	OD
	10	38A 150 HVBE	614636 <b>05565</b>
13x25x150	10	38A 220 HVBE	614636 <b>05066</b>
	10	38A 320 HVBE	699366 <b>84889</b>
	SQUA	RE	
DIM WxHxL(mm)	PK QTY	GO	OD
13x13x150	10	37C 80 MV	699366 <b>85063</b>
	10	38A 220 HVS	699366 <b>82631</b>
20x20x100	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>
ZUXZUXZUU	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

DRESS	DRESSING STICKS FOR BONDED ABRASIVE GRINDING WHEELS					
	RECT	ANGULAR				
DIM WxHxL(mm)	PK QTY	GC	OOD			
5x12,7x76,2	1	NORBIDE	614636 <b>10148</b>			
25x50x200	10	37C 24 TV	699366 <b>85072</b>			
	SQUA	RE				
DIM WxHxL(mm)	PK QTY	GC	OOD			
25x25x150	10	37C 30 UV	699366 <b>24620</b>			
	ROUN	ND				
DIM DIAxL(mm)	PK QTY	GC	OOD			
25,4x203,2	10	37C 30 TV	614636 <b>25024</b>			

GENERAL PURPOSE DRESSING STICKS						
	RECT	ANGULAR				
DIM WxHxL(mm)	PK QTY	GO	OD			
13x25x150	10	38A 220 KV	662434 <b>60886</b>			
25x50x200	10	39C 60 KV	699366 <b>85066</b>			



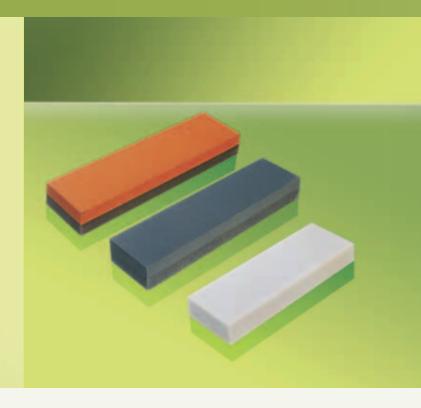
NOTES		

## **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



FEATURES	BENEFITS	
Premium silicon carbide	Fast cutting stone; ideal for general sharpening of cutting tools	
abrasive	Fast stock removal for quick edge shaping with minimal loading	
Pre-filled with oil	Saves time by eliminating the need for pre-soaking prior to use	1
INDIA		
FEATURES	BENEFITS	
Smooth cutting aluminium oxide abrasive	Long lasting cutting edge	
Norton's trademark for a fine finish	Ideal for cleaning, deburring & good quality finishes	
Pre-filled with oil	Saves time by eliminating the need for pre-soaking prior to use	1
ARKANSAS		
FEATURES	BENEFITS	
Natural premium	Sharpest possible razor edges	
Novaculite quarried in Arkansas & available in	Near mirror finishes	
soft & hard	Use for finer honing after India stone	





PRODUCT SELECTION				
APPLICATION	COARSE / MEDIUM SHARPENING	FINE STONING		
Carbide tool	Medium & coarse Crystolon Bench	Fine Crystolon Bench		
Carbide toot	Coarse/fine Crystolon Combination	Coarse/fine Crystolon Combination		
Charles	Medium & coarse India Bench	Fine India Bench		
Steel tool	Coarse/fine India Combination	Coarse/fine India Combination		

BENCH 8	СОМ	BIN	IATION OIL STONES	
	BENCH	STO	DNES	
DIM LxWxH(mm)	TYPE	PK QTY	GC	OOD
76x22x10	FBP3	5	Fine India	614636 <b>25077</b>
102x25x6	MB14	5	Medium India	614636 <b>85575</b>
102x25x6	FB14	5	Fine India	614636 <b>85570</b>
	CB24	5	Coarse India	614636 <b>85595</b>
	MB24	5	Medium India	614636 <b>85590</b>
102x25x13	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	614636 <b>26048</b>
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>
152x51x17	UPB6	10	Medium India	614636 <b>90694</b>
	CB6	5	Coarse India	614636 <b>85620</b>
	MB6	5	Medium India	614636 <b>85615</b>
152x51x25	MJB6	5	Medium Crystolon	614636 <b>85505</b>
	FB6	5	Fine India	614636 <b>85610</b>
	FJB6	5	Fine Crystolon	614636 <b>85500</b>
	CB8	5	Coarse India	614636 <b>85635</b>
203x51x25	UPB8	5	Medium India	614636 <b>85755</b>
ZU3X31XZ3	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 & COMBINATION OIL STONES**

BENCH & COMBINATION OIL STONES (CONTINUED)							
	COMBINATION OIL STONES						
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
76x38x13	IB34	10	Coarse/Fine India	076607 <b>87630</b>			
102x25x13	IB24	5	Coarse/Fine India	614636 <b>26001</b>			
102×44×16	JB134	5	Coarse/Fine Crystolon	614636 <b>85440</b>			
102X44X10	IB134	5	Coarse/Fine India	614636 <b>85550</b>			
127x51x19	JB45	5	Coarse/Fine Crystolon	614636 <b>85445</b>			
12/x31x17	IB45	5	Coarse/Fine India	614636 <b>85555</b>			
152x51x25	JB6	5	Coarse/Fine Crystolon	614636 <b>85450</b>			
132331323	IB6	5	Coarse/Fine India	614636 <b>85560</b>			
152x64x25	IB20	5	Coarse/Fine India	614636 <b>26103</b>			
178x51x25	IB7	5	Coarse/Fine India	614636 <b>90647</b>			
203x51x25	JB8	5	Coarse/Fine Crystolon	614636 <b>85455</b>			
203331323	IB8	5	Coarse/Fine India	614636 <b>25078</b>			
PEN KNIFE STONES							
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
102×25×10	HB14	5	Hard Arkansas	614636 <b>87555</b>			
102/23/10	SB14	5	Soft Arkansas	614636 <b>87565</b>			



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





NOTES	

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









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	ROUI	ND					
DIM LxH(mm)	TYPE	PK QTY	GC	OOD				
102x6	MF314	5	Medium India	614636 <b>86355</b>				
102x8	MF324	5	Medium India	614636 <b>86370</b>				
102×10	MF334	5	Medium India	614636 <b>86385</b>				
TUZXTU	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

# 318 ABRASIVE & PRECISION FILES

BRASI	VE FIL	ES	(CONTINUED)	
$\mathcal{O}$	ROUNE			
DIM LxDIA(mm)	TYPE	PK QTY	GO	OD
76x6	HF813	5	Hard Arkansas	614636 <b>86800</b>
100.0	MF212	5	Medium India	614636 <b>26143</b>
102x3	FF212	5	Fine India	614636 <b>26076</b>
	MF214	5	Medium India	614636 <b>86475</b>
102x6	FF214	5	Fine India	614636 <b>86470</b>
	CF214	5	Coarse India	614636 <b>86480</b>
100.0	MF224	5	Medium India	614636 <b>26036</b>
102x8	FF224	5	Fine India	614636 <b>26071</b>
100.10	MF234	5	Medium India	614636 <b>86490</b>
102x10	FF234	5	Fine India	614636 <b>86485</b>
	MF244	5	Medium India	614636 <b>86505</b>
102x13	FF244	5	Fine India	614636 <b>86500</b>
	MF236	5	Medium India	614636 <b>90575</b>
152x10	FF236	5	Fine India	614636 <b>26106</b>
	MF246	5	Medium India	614636 <b>86520</b>
152x13	FF246	5	Fine India	614636 <b>86515</b>
	MF256	5	Medium India	614636 <b>86535</b>
152x16	FF256	5	Fine India	614636 <b>86530</b>
152x19	MF266	5	Medium India	614636 <b>86550</b>
4	SQUAR	E		
DIM		PK		
LxH(mm)	TYPE	QTY	GO	00D
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>
	FF14	5	Fine India	614636 <b>86065</b>
102x6	MF14	5	Medium India	614636 <b>86070</b>
	CF14	5	Coarse India	614636 <b>86075</b>
102.0	FF24	5	Fine India	614636 <b>90673</b>
102x8	MF24	5	Medium India	614636 <b>26072</b>
	FF34	5	Fine India	614636 <b>86080</b>
102x10	MF34	5	Medium India	614636 <b>86085</b>
	CF34	5	Coarse India	614636 <b>86090</b>
	CF44	5	Coarse India	614636 <b>86105</b>
102x13	FF44	5	Fine India	614636 <b>86095</b>
	MF44	5	Medium India	614636 <b>86100</b>
450.40	FF36	5	Fine India	614636 <b>26037</b>
152x10	MF36	5	Medium India	614636 <b>26038</b>
	CF46	5	Coarse India	614636 <b>86120</b>
152x13	FF46	5	Fine India	614636 <b>86110</b>
102/110	MF46	5	Medium India	614636 <b>86115</b>

**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length, H = Height





			(CONTINUED)	
	SQUAR	E (C	ONTINUED)	
	CF56	5	Coarse India	614636 <b>86135</b>
152x16	FF56	5	Fine India	614636 <b>86125</b>
	MF56	5	Medium India	614636 <b>86130</b>
	CF66	5	Coarse India	614636 <b>86150</b>
152x19	FF66	5	Fine India	614636 <b>86140</b>
	MF66	5	Medium India	614636 <b>86145</b>
	FF76	5	Fine India	614636 <b>86155</b>
152x25	MJF76	5	Medium Crystolon	614636 <b>25039</b>
^	MF76S	5	Medium India	614636 <b>26141</b>
	TRIAN	GLE		
DIM	TYPE	PK		OOD
LxH(mm)		QTY		
76x6	HF113	5	Hard Arkansas	614636 <b>86620</b>
76x10	HF133	5	Hard Arkansas	614636 <b>86625</b>
76x13	HF143	5	Hard Arkansas	614636 <b>86630</b>
400 /	MF114	5	Medium India	614636 <b>86235</b>
102x6	FF114	5	Fine India	614636 <b>86230</b>
	CF114	5	Coarse India	614636 <b>86240</b>
102x8	MF124	5	Medium India Fine India	614636 <b>26027</b>
	FF124	5	Fine India  Medium India	614636 <b>26028</b>
102x10	MF134	5	Fine India	614636 <b>86250</b>
TUZXTU	FF134 CF134	5 5	Coarse India	614636 <b>86245</b> 614636 <b>86255</b>
	CF134	5	Coarse India	614636 <b>86270</b>
102x13	MF144	5	Medium India	614636 <b>86265</b>
102313	FF144	5	Fine India	614636 <b>86260</b>
	MF136	5	Medium India	614636 <b>26090</b>
152x10	FF136	5	Fine India	614636 <b>26054</b>
	MF146	5	Medium India	614636 <b>86280</b>
152x13	MJF146	5	Medium Crystolon	614636 <b>25043</b>
.02.(10	FF146	5	Fine India	614636 <b>86275</b>
	MF156	5	Medium India	614636 <b>86295</b>
152x16	FF156	5	Fine India	614636 <b>86290</b>
	CF166	5	Coarse India	614636 <b>86315</b>
	MF166	5	Medium India	614636 <b>86310</b>
152x19	MJF166	5	Medium Crystolon	614636 <b>25048</b>
	FF166	5	Fine India	614636 <b>86305</b>
	MF176	5	Medium India	614636 <b>86325</b>
152x25	FF176	5	Fine India	614636 <b>86320</b>
203x16	MF178	5	Medium India	614636 <b>26073</b>
	MF180	5	Medium India	614636 <b>26130</b>
203x19	FF180	5	Fine India	614636 <b>26082</b>
	CF182	5	Coarse India	614636 <b>26043</b>

# **ABRASIVE & PRECISION FILES**

PRECISION FILES						
	KNIFE BLADE FILES					
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD		
76x19x3	HF873	5	Hard Arkansas	614636 <b>86830</b>		
102x25x3	MF724	5	Medium India	614636 <b>86775</b>		
10232533	FF724	5	Fine India	614636 <b>86770</b>		
0	POINTED FILES					
DIM LxH(mm)	TYPE	PK QTY	GO	OD		
76x8	MF723	5	Medium India	614636 <b>86745</b>		
76x10x3	HF823	5	Hard Arkansas	614636 <b>86805</b>		
	SILVEF	RSMI	TH FILES			
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD		
102x13x2	FF444	5	Fine India	614636 <b>86955</b>		
102x13x2	MF444	5	Medium India	614636 <b>86960</b>		



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





NOTES		

## **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









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							
I CARBIDE TOOL SLIP STONES							
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
89x19x13	MJT63 FJT63	5 5	Medium Crystolon Fine Crystolon	614636 <b>87290</b> 614636 <b>87285</b>			
٥	ROUNE	D ED	GE SLIP STONES				
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
102x25x11	MS14	5	Medium India	614636 <b>87140</b>			
102,23,11	FS14	5	Fine India	614636 <b>87135</b>			
102x32x6	HS14	5	Hard Arkansas	614636 <b>87050</b>			
102x44x10	HS4	5	Hard Arkansas	614636 <b>87045</b>			
	MJS24	5	Medium Crystolon	614636 <b>87080</b>			
114x44x6	MS24	5	Medium India	614636 <b>87150</b>			
11444440	FJS24	5	Fine Crystolon	614636 <b>87075</b>			
	FS24	5	Fine India	614636 <b>87145</b>			
114x44x10	MS34	5	Medium india	614636 <b>87165</b>			
114,44,10	FS34	5	Fine India	614636 <b>87160</b>			
	MJS44	5	Medium Crystolon	614636 <b>87095</b>			
114x44x13	MS44	5	Medium India	614636 <b>87180</b>			
114444413	FJS44	5	Fine Crystolon	614636 <b>87090</b>			
	FS44	5	Fine India	614636 <b>87175</b>			
114x54x16	MS54	5	Fine India	614636 <b>90656</b>			
127x25x8	MS15	5	Medium India	614636 <b>87195</b>			
12/32530	FS15	5	Fine India	614636 <b>87190</b>			
1	CARVI	NG T	OOL SLIP STONES				
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
57x22x5	AS22	5	Hard Arkansas ultra-fine	614636 <b>87255</b>			

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

# 324 ABRASIVE SLIPS & SPECIALTIES

SPECIAL	ITY S	101	NES				
GOUGE SHARPENING STONE							
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
152x51x35	FS76	5	Fine India	614636 <b>87305</b>			
	TRADE	MAI	N'S STONES				
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
241x35x13	JT911	5	Medium Crystolon	076607 <b>87938</b>			
254x32x19	JT930	5	Medium Crystolon	614636 <b>87675</b>			
	MACHI	NE I	KNIFE STONE				
DIM DIAxH(mm)	TYPE	PK QTY	GO	OD			
102x38	JB74	5	Coarse Crystolon	614636 <b>87570</b>			
1	REAMER STONES						
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
127x25x5	FT125	5	Fine India	614636 <b>87430</b>			
	MT125	5	Medium India	614636 <b>87425</b>			
152x25x6	MT126	5	Medium India	614636 <b>87440</b>			
	RUBBI	NG E	BRICK				
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
203x51x51	BF28	5	Hand Crystolon	614636 <b>87845</b>			
203x89x38	235	5	Fluted Crystolon	614636 <b>87795</b>			
	SCYTH	E ST	ONE				
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
240x35x13	TJ4	5	Scythe Stone	699366 <b>93133</b>			
	RUBBE	RUBBER STICK					
DIM LxWxH(mm)	TYPE	PK QTY	GO	OD			
200x10x20	-	5	A240FR96	699366 <b>25667</b>			

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

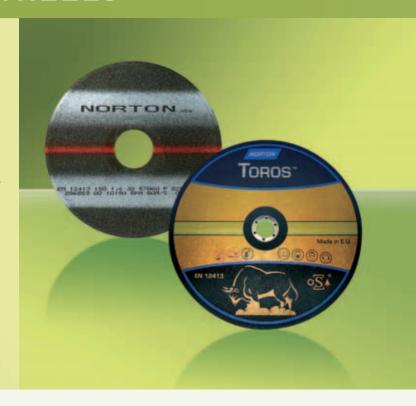




NOTES	

# **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









	U57A	Type 41 Type 42	
<b>C</b>	FEATURES	BENEFITS	
쁘	Specially treated brown aluminium oxide abrasive	Long wheel life	No
	Tough & hard aluminium oxide abrasive	Ideal for heavy duty applications	3xov
8	Not suitable for use on extremely hard materials		To National States

# **ORGANIC CUT-OFF WHEELS**

	57A	Type 41	
	FEATURES	BENEFITS	
	Semifriable aluminium oxide abrasive	■ Cool & burn free cutting	0
	Less tough than type A abrasive but offers better cutting quality	Ideal for heat-sensitive applications with light to moderate feed rates	NORTON
ı	Pointed shape	<ul> <li>Suitable for all steels</li> <li>Good compromise between cut quality</li> <li>wheel life</li> <li>Very versatile: suitable for all steels</li> </ul>	The National Property of the National Property
	A	Type 41	
	FEATURES	BENEFITS	
8	Tougher than pure white aluminium oxide abrasive	Good wheel life, limited metal removal rate	0
GOOD	General purpose abrasive suitable for most operations	<ul> <li>Good for cutting medium to soft steels</li> <li>Economy product</li> <li>First choice for less technical applications</li> </ul>	ANOLA ILON
	23A	Type 41	
	FEATURES	BENEFITS	
	An abrasive blend of semifriable 57A aluminium oxide & white monocristalline 32A aluminium oxide	<ul> <li>Cool &amp; burn free cutting</li> <li>Suitable for all steels</li> <li>Improved metal removal rate compared to 57A pure semifriable aluminium oxide abrasive</li> </ul>	ANOR TON

# 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-F	REIN	IFO	RCED			<b>\( \times \)</b>	
DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	ВЕ	ST	GOOD		
	<b>—</b> Туре	41					
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>	
	80	25			23A 80 NB25	662530 <b>56367</b>	
150x1x20	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>	
	63	25			23A 60 LB25	662530 <b>56365</b>	
150x1,6x20	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>	
	80	25			57A 60 NB25	662530 <b>56360</b>	
150x1,6x32	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>	
400 4 / 04 55	80	25			57A 60 PB25	662530 <b>56375</b>	
180x1,6x31,75	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>	
	80	25			57A 60 NB25	662530 <b>56382</b>	
200x1,6x32	80	25			57A 60 PB25	662530 <b>56380</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>	
	63	10	39C 70 DB24 (Toros)	662530 <b>60408</b>			
	63	10	74C 70 FB24 (Toros)	662530 <b>60415</b>			
0501 / 00	63	10	XGP 70 EB26 (Toros)	662530 <b>60409</b>			
250x1,6x32	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>			

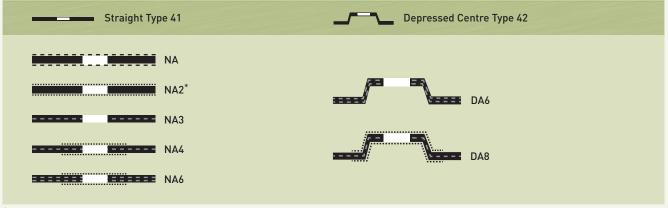
**Dimensions Key:** DIM = Dimensions, DIA = Diameter, T = Thickness, B = Bore

# **ORGANIC CUT-OFF WHEELS**

NON-REINFORCED (CONTINUED)							
DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BE	ST	GO	OD	
_	Туре	41					
	63	10	39C 70 DB24 (Toros)	662530 <b>60419</b>			
300x2x32	63	10	XGP 70 EB26 (Toros)	662530 <b>60418</b>			
	63	10	XGP 70 FB26 (Toros)	662530 <b>60417</b>			
	63	10	39C 70 DB24 (Toros)	662530 <b>60423</b>			
	63	10	74C 70 FB24 (Toros)	662530 <b>60422</b>			
350x2,5x32	63	10	XGP 70 EB26 (Toros)	662530 <b>60414</b>			
	63	10	XGP 70 FB26 (Toros)	662530 <b>60420</b>			
	63	10	XGP 70 HB26 (Toros)	662530 <b>60421</b>			
400x3x32	63	10	XGP 60 EB26 (Toros)	662530 <b>60425</b>			
400X3X3Z	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.



<sup>\*</sup>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





REINF	orc	ED						X
DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BE	ST	BET <sup>*</sup>	TER	GOOD	
Type 41								
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>				
	80	10	4NZ 30 TB65 NA	662530 <b>59172</b>				
350x3,5x25,4	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>				
/00v/ Ev2E /	80	10	4NZ 30 XB25 NA	662530 <b>59175</b>				
400x4,5x25,4	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>		
	Туре	42						
/00vE7/-0	80	10	4NZ 24 ZB25 DA8 (NZ 28 DR)	662530 <b>56523</b>	U57A 20 VB25 DA8 (UA26 DR)	662530 <b>56524</b>		
400x5x76,2	80	10	5NZ 24 PBF3 DA6 (Toros)	662530 <b>56525</b>				
508v4v74 2	80	10	4NZ 24 ZB25 DA8 (NZ 28 DR)	662530 <b>56539</b>	U57A 20 RB25 DA8	662530 <b>56538</b>		
508x6x76,2	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











# SPEC CHECK

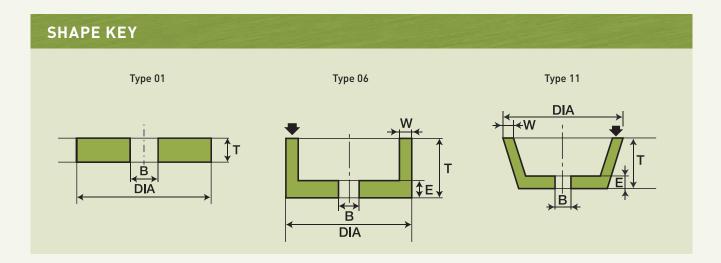
- B & B3 Foundry & portable wheels: multi-purpose bond that gives satisfactory results on most applications
- Foundry wheels: high level bond suitable for most technical applications requiring high powered machines **■** B28

PORT	AB	LE	SN	AG	GING			
DIM DIAxTxB(mm)	W	Е	MOS	PK		GOOD		
Type 01								
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>		
42v12v0 E2			50	20	A 24 TB	662530 <b>57653</b>		
63x13x9,53			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>		
80113110			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>		
100XZ3XZ0			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>		
	T	ype 0	6					
125x68x20	30	18	50	8	AZ 24 RB	662434 <b>50227</b>		
	<b>1</b> T	ype 11	1					
	25	20	50	10	A 20 MB	662435 <b>70663</b>		
125x50xM14	25	20	50	10	C 20 PB	662435 <b>70664</b>		
	25	20	50	10	A 20 PB	662435 <b>70671</b>		
125x50xW5/8	25	20	50	4	C 16 NB	692104 <b>32282</b>		
	33,3	20	50	8	A 16 PB	662530 <b>57666</b>		
150x50xW5/8	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

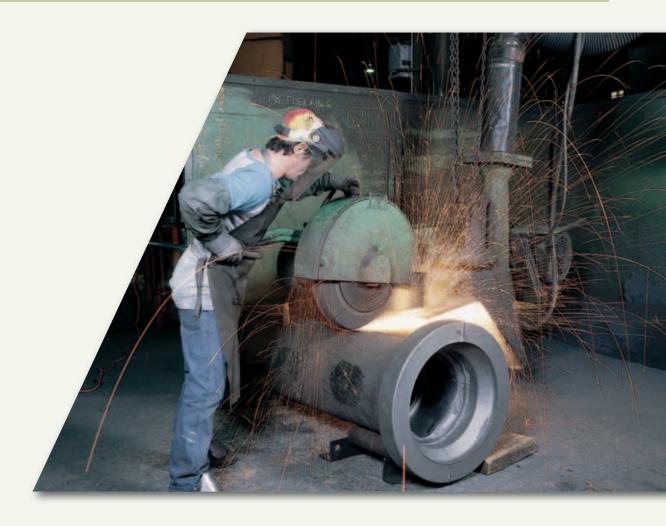
# **ORGANIC SNAGGING WHEELS & CUPS**

PEDESTAL SNAGGING							
DIM DIAxTxB(mm)	MOS (m/s)	PK QTY	BE	ST	GC	OOD	
Type 01							
200	50	2			A 16 NB3	662530 <b>61993</b>	
300x50x32	50	2			A 36 06B3	662530 <b>61994</b>	
355x50x127	50	2			A 16 0B28	662530 <b>57667</b>	
400x50x127	50	2			A 24 QB3	662530 <b>60723</b>	
508x50x50	50	1	ZF7A 16 R5B3	662530 <b>57670</b>			
508x50x127	50	1			A 16 NB28	662435 <b>70668</b>	
508x60x127	50	1	ZF7A 20 Q5B3	662530 <b>57673</b>			
300X60X1Z7	50	1	ZF7A 16 R5B3	662530 <b>57671</b>			
760x76x304,8	50	1	ZF7C 16 3PB28	662530 <b>57679</b>			
760x80x304,8	50	1	ZF7A 14 3RB28	662530 <b>57675</b>			
/00x00x304,8	50	1	ZF7A 16 3RB28	662530 <b>57676</b>			





NOTES			



# **ORGANIC MOUNTED POINTS**

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

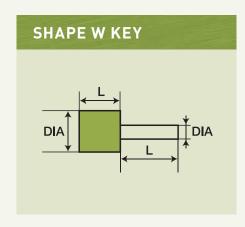


# FEATURES BENEFITS Tougher than pure white aluminium oxide abrasive General purpose abrasive for most operations General purpose abrasive for most operations First choice if no technical specific requirement





ORG	ANIC M	OUNTE	D WI	1EEI	LS	
SHAPE	DIM DIAxL(mm)	SPINDLE DIAxL(mm)	MOS (RPM)	PK QTY	BE	ST
W177	10x20	6x40	66000	20	A 46 QB	662530 <b>53220</b>
W178	10x25	6x40	55200	20	A 46 QB	662530 <b>53221</b>
W188	13x40	6x40	30370	20	A 36 QB	662530 <b>53225</b>
VV 100	13x40	6x40	30370	20	A 46 QB	662530 <b>53226</b>
W204	20x20	6x40	42750	20	A 46 QB	662530 <b>53229</b>
W205	20x25	6x40	34500	20	A 36 QB	662530 <b>53230</b>
VVZUO	20x25	6x40	34500	20	A 46 QB	662530 <b>53231</b>
W207	20x40	6x40	24000	20	A 46 QB	662530 <b>53232</b>
W220	25x25	6x40	25500	20	A 36 QB	662530 <b>53239</b>
VVZZU	25x25	6x40	25500	20	A 46 QB	662530 <b>53237</b>
W221	25x40	6x40	19120	20	A 46 QB	662530 <b>53243</b>
W230	32x32	6x40	24000	20	A 36 QB	662530 <b>53250</b>
WZ3U	32x32	6x40	24000	20	A 46 QB	662530 <b>53248</b>
W236	40x13	6x40	25130	20	A 46 QB	662530 <b>53251</b>
W242	50x25	6x40	19100	20	A 46 QB	662530 <b>53252</b>



**Dimensions Key:** DIM = Dimensions, DIA = Diameter, L = Length

# **ORGANIC MOUNTED POINTS**

NOTES	



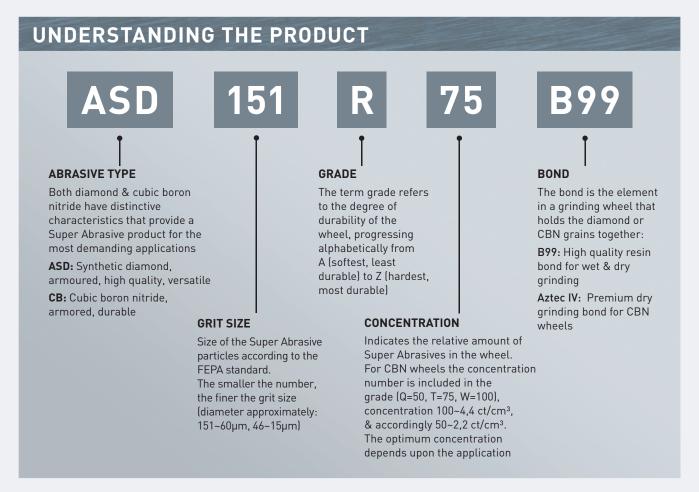


# Super Abrasives

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.



ABRASIVE TYPES									
DIAMON	D								
ASD	Particularly suited to grind cemented carbides, ceramics & other non-metallic materials								
AMD	Suitable for metal bond								
DPS	Electroplated Diamond								
CBN									
СВ	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)	
DIAMOND	CBN	MESH	SIZE	
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	

	3	
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**

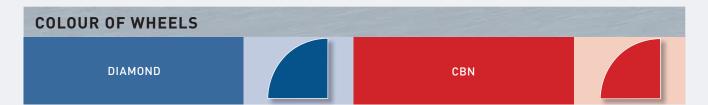
Norton offers the industry's widest selection of sharpening and grinding Super Abrasive wheels designed to meet every customer requirement. The range is classified into 2 tiers (Best/Better) to help you choose the right product for your specific application.



High concentration (100/125 & W) / Premium bond xlb4847 & Aztec BX104



Medium & low concentration (50 & 75 for Dia and Q&T for CBN)



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

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 1A1 1A1R **1V1** 1A8W 4A2 4A9 6A2 6A9 4A9K 4ET9 6VV5 11A2-70° 11V2 12A2-45° 12V2 12V9 12A2-20° 12C9-20° 13A2 14A1 14F1

# DIAMOND WHEELS

DIMINORDAN		
FEATURES	BENEFITS	
High quality synthetic diamond	High material removal rates; longer wheel life versus conventional silicon carbide wheels	arried .
<ul><li>Pre-engineered resin bond</li><li>B99</li></ul>	<ul> <li>Free cutting; superior form holding; efficient wet or dry</li> <li>Ideal for dry tool room reconditioning applications</li> <li>Ideal for 1A1R cut-off applications &amp; grinding glass or ceramic materials</li> </ul>	Vaca tone and
Optimised design	<ul> <li>Fast stock removal, cool cutting; excellent for dry off-hand finishing of carbide tools, no wheel dressing required</li> <li>Most durable under high grinding forces; excellent for wet off-hand finishing of carbide tools</li> </ul>	S SELVEN LEGE
CBN WHEEL	S	

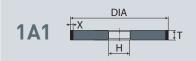
FEATURES	BENEFITS
<ul><li>CBN abrasive material is 2nd in hardness to Diamond</li></ul>	Easily cuts difficult to grind steel parts, RC 50 or harder
High quality durable CBN abrasive	■ Highly wear resistant & thermally stable
<ul><li>Pre-engineered resin bond</li><li>B99</li></ul>	■ Free cutting, superior form holding
Optimised design	Most efficient for dry tool resharpening especially where heavy stock removal is required
High performance Aztec IV bond	Larger cutting depth



PRODUC	T SELECT	ION	
APPLICATION	TYPE	APPLICATION VARIABLES	RECOMMENDED SPECIFICATION
DIAMOND WHEE	LS STARTING RECO	MMENDATIONS	
Cutting-off	1A1R		ASD126R75B99
Cylindical grinding OD	1A1, 14A1		ASD126R75B99
Cylindical 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
CBN WHEELS S	TARTING RECOMME	NDATIONS	
Cutting-off	1A1R		CTB151B99
Cylindical grinding OD	1A1, 14A1		CB126TB99
Cylindical 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







	D	IAM	10N	D				
DIA	Т	Н	Χ	PK	RF	ST	BET1	FR
(mm)	(mm)	(mm)	(mm)	QTY	5.	31	DET	
15	12	6	2	1	ASD126R100B99	690141 <b>51486</b>		
20	10	6	2	1	ASD126R100B99	690141 <b>51728</b>		
25	10	6	2	1			ASD126R75B99	690141 <b>51498</b>
	12	6	2	1	ASD126R100B99	690141 <b>51503</b>		
30	10	6	3	1			ASD126R75B99	690141 <b>51508</b>
	10	10	3	1			ASD126R75B99	690141 <b>51510</b>
40	15	10	3	1			ASD126R75B99	690141 <b>51516</b>
50	15	20	3	1			ASD126R75B99	690141 <b>51521</b>
	4	20	3	1			ASD91R75B99	690141 <b>51528</b>
	6	32	3	1	ASD91R100B99	690141 <b>52303</b>		
	10	20	5	1			ASD91R75B99	601576 <b>81620</b>
100	10	20	5	1	ASD64R100B99	601576 <b>81660</b>		
	12	20	5	1	ASD64R100B99	601576 <b>81662</b>		
	15	20	5	1			ASD91R75B99	601576 <b>81667</b>
	15	20	5	1	ASD64R100B99	601576 <b>81669</b>		
	5	20	3	1			ASD126R75B99	690141 <b>51531</b>
	10	20	5	1	ASD126R100B99	601576 <b>82091</b>		
125	10	20	10	1	ASD64R100B99	601576 <b>81670</b>		
	12	20	10	1	ASD64R100B99	601576 <b>81672</b>		
	16	20	10	1	ASD64R100B99	601576 <b>81674</b>		
	10	20	3	1			ASD126R50B99	601576 <b>36274</b>
150	10	32	3	1			ASD126R75B99	690141 <b>51540</b>
	12	20	10	1	ASD64R100B99	601576 <b>81675</b>		
175	15	32	1,5	1			ASD126R50B99	690141 <b>51545</b>
	10	32	3	1			ASD126R75B99	690141 <b>51550</b>
200	10	51	3	1			ASD126R75B99	690141 <b>52165</b>
200	15	32	3	1			ASD126R75B99	690141 <b>51558</b>
	15	76,2	3	1			ASD126R75B99	690141 <b>51560</b>
	10	76,2	3	1			ASD126R75B99	690141 <b>51565</b>
250	15	76,2	3	1			ASD126R75B99	601576 <b>36276</b>
	20	76,2	1,5	1			AMD126R50B99	690141 <b>51567</b>
	10	127	3	1			ASD126R75B99	690141 <b>51570</b>
300	15	127	3	1			ASD126R75B99	601576 <b>36277</b>
	20	127	1,5	1			AMD126R50B99	690141 <b>51576</b>

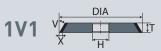
DIA   T   H   X   PK   QTY   BEST   BETTER			
12 10 6 2 1 CB126WB99 69014151482  15 10 6 2 1 CB126WB99 69014151484  12 6 2 1 CB126WB99 69014151487  20 10 6 2 1 CB126WB99 69014151495  21 10 10 2 1 CB126WB99 69014151502  25 12 10 2 1 CB126WB99 69014151507  30 15 10 3 1 CB126WB99 60157636271  40 15 8 3 1 CB126WB99 69014151518  40 15 20 3 1 CB126WB99 69014151519  50 15 20 3 1 CB126WB99 69014151524  60 15 20 3 1 CB126WB99 69014151524  60 15 20 3 1 CB126WB99 69014151524  60 15 20 3 1 CB126WB99 69014151524	BETTER		
15			
15 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  25 12 10 2 1 CB126WB99 69014151507  30 15 10 3 1 CB126WB99 69014151518  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 69014151524  10 20 3 1 CB126WB99 60157636272  10 20 3 1 CB126WB99 69014151524			
20			
20			
25			
25 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 10 20 3 1 CB126WB99 60157636272			
30			
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       10     20     3     1     CB126WB99     69014151529			
15 10 3 1 CB126WB99 690141 <b>51519</b> 50 15 20 3 1 CB126WB99 690141 <b>51524</b> 60 15 20 3 1 CB126WB99 601576 <b>36272</b> 10 20 3 1 CB126TB99 690141 <b>51529</b>			
60 15 20 3 1 CB126WB99 601576 <b>36272</b> 10 20 3 1 CB126TB99 690141 <b>5152</b> 9			
10 20 3 1 CB126TB99 690141 <b>5152</b> 9			
400 40 00 5 4 000 00 (0457/4 <b>47/</b> 0	7		
100 10 20 5 1 CB107WB99 601576 <b>81762</b>			
15 20 5 1 CB107WB99 601576 <b>81763</b>			
125 10 20 10 1 CB107WB99 601576 <b>81764</b>			
10 20 3 1 CB126TB99 690141 <b>5154</b>	1		
150 12 20 10 1 CB107WB99 601576 <b>81765</b>			
175 8 31,75 5 1 CB107WB99 601576 <b>82092</b>			
10 32 3 1 CB126TB99 690141 <b>5155</b> 2	2		
10 51 3 1 CB126TB99 601576 <b>3630</b>	2		
200 15 32 3 1 CB126QB99 690141 <b>5155</b> 6	6		
15 76,2 3 1 CB126TB99 690141 <b>5156</b> 2	2		
250 20 76,2 1,5 1 CB126QB99 690141 <b>5156</b> 9	<del>)</del>		
15 76,2 3 1 CB126TB99 690141 <b>5157</b> :	3		
300 15 127 3 1 CB126TB99 690141 <b>5157</b> 4	4		
20 127 1,5 1 CB126QB99 690141 <b>5157</b> 8	3		



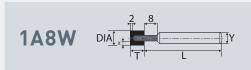




CBN										
DIA (mm)	T (mm)	H (mm)	X (mm)	E (mm)	PK QTY	BET	TER			
100	0,9	20	5	0,7	1	CB151TB99	601576 <b>81767</b>			
125	1	20	5	0,7	1	CB151TB99	601576 <b>82094</b>			
150	1	20	5	0,8	1	CB151TB99	601576 <b>82103</b>			
200	1,2	25,4	5	0,9	1	CB151TB99	601576 <b>81768</b>			
250	1,2	32	5	0,9	1	CB151TB99	601576 <b>81769</b>			
300	1,5	32	5	1,2	1	CB151TB99	601576 <b>81770</b>			



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DIA (mm)	T (mm)	H (mm)	X (mm)	V	PK QTY	BE	ST		
	10	20	5	10°	1	ASD64R100B99	601576 <b>81694</b>		
	15	20	5	10°	1	ASD64R100B99	601576 <b>81695</b>		
100	15	20	5	20°	1	ASD64R100B99	601576 <b>81696</b>		
	15	20	5	30°	1	ASD64R100B99	601576 <b>81697</b>		
	15	20	5	45°	1	ASD64R100B99	601576 <b>81698</b>		
	6	20	5	20°	1	ASD64R100B99	601576 <b>81700</b>		
	10	20	5	10°	1	ASD64R100B99	601576 <b>81701</b>		
125	10	20	5	20°	1	ASD64R100B99	601576 <b>81702</b>		
123	10	20	5	30°	1	ASD64R100B99	601576 <b>81703</b>		
	15	20	5	20°	1	ASD64R100B99	601576 <b>81704</b>		
	15	20	5	45°	1	ASD64R100B99	601576 <b>81705</b>		
150	12	20	5	15°	1	ASD64R100B99	601576 <b>81706</b>		
	CE	BN							
DIA (mm)	T (mm)	H (mm)	X (mm)	V	PK QTY	BE	ST		
	10	20	5	10°	1	CB107WB99	601576 <b>81771</b>		
	15	20	5	10°	1	CB107WB99	601576 <b>81772</b>		
100	15	20	5	20°	1	CB107WB99	601576 <b>81773</b>		
	15	20	5	30°	1	CB107WB99	601576 <b>81774</b>		
	15	20	5	45°	1	CB107WB99	601576 <b>81775</b>		
105	12	20	5	10°	1	CB107WB99	601576 <b>81776</b>		
125	12	20	5	45°	1	CB107WB99	601576 <b>81777</b>		
150	12	20	5	15°	1	CB107WB99	601576 <b>81778</b>		



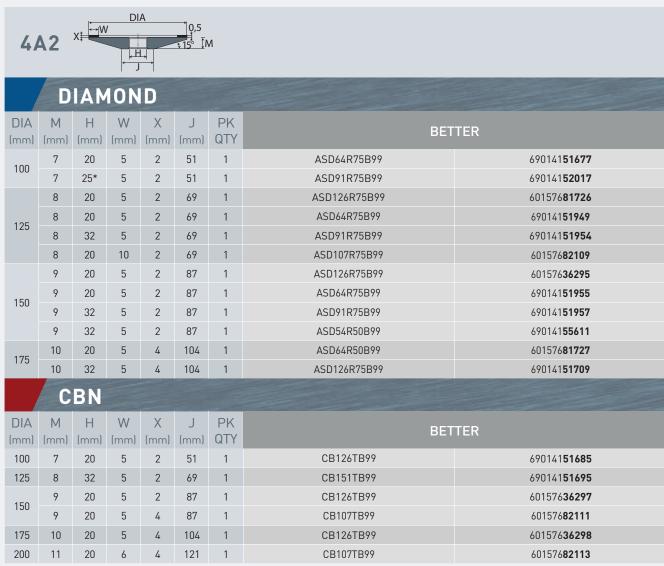
	DIAMOND											
DIA (mm)	T (mm)	X (mm)	Y (mm)	L (mm)	PK QTY	BE	ST	ВЕТ	TER			
3	6	0,65	3	40	1			ASD126R75B99	601576 <b>81708</b>			
4	6	1,15	3	40	1			ASD126R75B99	601576 <b>81709</b>			
5	6	1,5	3	40	1			ASD126R75B99	601576 <b>81710</b>			
	3	1,5	6	40	1	ASD76R125B99	601576 <b>81711</b>					
6	6	1,5	6	40	1			ASD126R75B99	601576 <b>81713</b>			
	6	1,5	6	70	1	ASD64R125B99	601576 <b>81714</b>					
8	10	2	6	70	1			ASD126R75B99	601576 <b>81717</b>			
0	6	2	6	70	1	ASD64R125B99	601576 <b>81718</b>					
10	10	2	6	70	1			ASD126R75B99	601576 <b>81720</b>			
10	6	2	6	70	1	ASD64R125B99	601576 <b>81721</b>					
12	10	3	6	70	1			ASD126R75B99	601576 <b>81722</b>			
12	6	3	6	70	1	ASD64R125B99	601576 <b>81723</b>					

	C	BN							
DIA (mm)	T (mm)	X (mm)	Y (mm)	L (mm)	PK QTY	BE	ST	ВЕТ	TER
3	6	0,65	3	40	1			CB126TB99	601576 <b>81779</b>
4	6	1,15	3	40	1			CB126TB99	601576 <b>81780</b>
5	6	1,5	3	40	1			CB126TB99	601576 <b>81781</b>
6	6	1,5	6	40	1			CB126TB99	601576 <b>81782</b>
O	6	1,5	6	70	1	CB126WB99	601576 <b>81783</b>		
8	10	2	6	70	1			CB126TB99	601576 <b>81784</b>
0	6	2	6	70	1	CB126WB99	601576 <b>81785</b>		
10	10	2	6	70	1			CB126TB99	690141 <b>51061</b>
10	6	2	6	70	1	CB126WB99	601576 <b>81786</b>		
12	10	3	6	70	1			CB126TB99	601576 <b>81787</b>
12	6	3	6	70	1	CB126WB99	601576 <b>81788</b>		

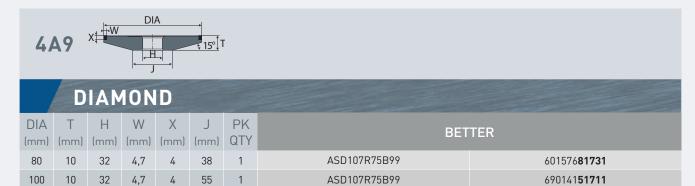




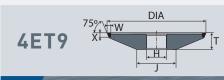




<sup>\*4</sup>A2K (with keyway)

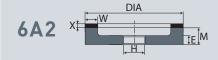






	DIAMOND														
DIA mm)	T (mm)	H (mm)	W (mm)	X (mm)	J (mm)	PK QTY	ВЕ	ST	BETTER						
100	8	25*	3	1,8	54	1			ASD54R75B99	690141 <b>51958</b>					
100	8	25*	3	3,3	54	1			ASD76R50B99	601576 <b>81732</b>					
	11,5	32	2,5	1,2	63	1	ASD54R75XLB4847	690141 <b>51979</b>							
125	12	32	3	1,8	63	1	ASD91R100B99	662601 <b>65128</b>							
123	12	32	3	1,8	63	1	ASD54R75XLB4847	690141 <b>51369</b>							
	14	32	3	3,8	63	1	ASD54R75XLB4847	690141 <b>51980</b>							

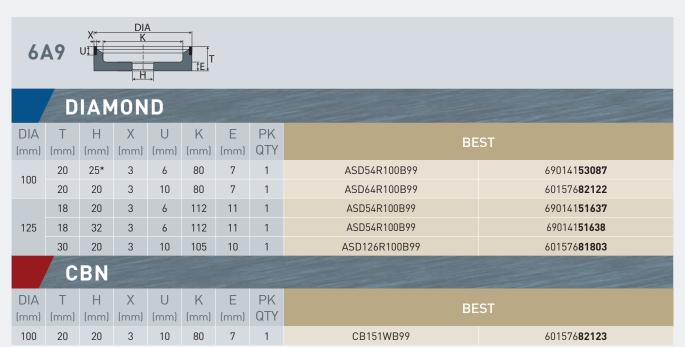
<sup>\*4</sup>ET9K (with keyway)



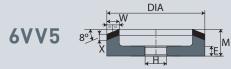
	DIAMOND													
DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	ВЕ	ST	BETTER					
	20	20	6	4	10	1			ASD151R75B99	601576 <b>81733</b>				
	20	25	6	4	10	1	ASD91R100B99	601576 <b>82114</b>						
	20	20	8	2	10	1	ASD107R100B99	601576 <b>81734</b>						
100	20	25	8	2	10	1			ASD107R75B99	690141 <b>51608</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>				
	20	20	5	2	10	1			ASD64R50B99	601576 <b>82115</b>				
125	40	20	6	5	10	1			ASD64R75B99	601576 <b>82117</b>				
123	20	20	10	2	10	1			ASD107R50B99	690141 <b>51615</b>				
	20	70	10	2	10	1			ASD107R50B99	690141 <b>52087</b>				
	50	20	6	4	10	1			ASD126R75B99	690141 <b>51618</b>				
	50	50	6	4	10	1	ASD126R100B99	601576 <b>81735</b>						
150	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>						



	C	BN								
DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	BE	ST	ВЕТ	TER
125	40	20	6	4	10	1			CB151TB99	601576 <b>81789</b>
150	50	20	6	4	10	1			CB151TB99	601576 <b>81791</b>
150	50	32	6	4	10	1			CB126TB99	690141 <b>51623</b>
200	50	105	15	6	13	1	CB107WB99	601576 <b>82119</b>		



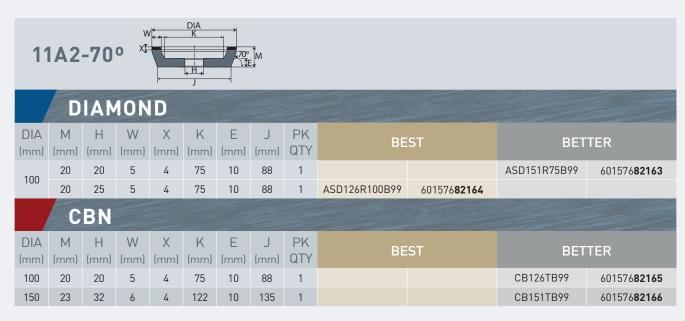
<sup>\*6</sup>A9K (with keyway)

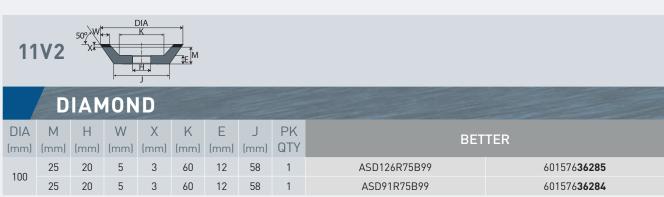


	DIAMOND														
DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	E (mm)	PK QTY	BEST		BETTER						
100	20	25*	5	8	10	1			ASD126R100/46R75XLB4847	690141 <b>51090</b>					
	18	25*	5	6	10	1			ASD126R100/46R75B99	601576 <b>82125</b>					
	18	32	5	6	10	1			ASD126R100/46R75B99	601576 <b>82126</b>					
	18	32	5	6	10	1	ASD126R125/46R100B99	601576 <b>81736</b>							
125	18	32	5	6	10	1			ASD91R100/20BR75B99	601576 <b>81737</b>					
	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>					

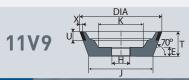
<sup>\*6</sup>VV5K (with keyway)











20

20

40

40

125

1,5 10

10

3

75 10

75 10

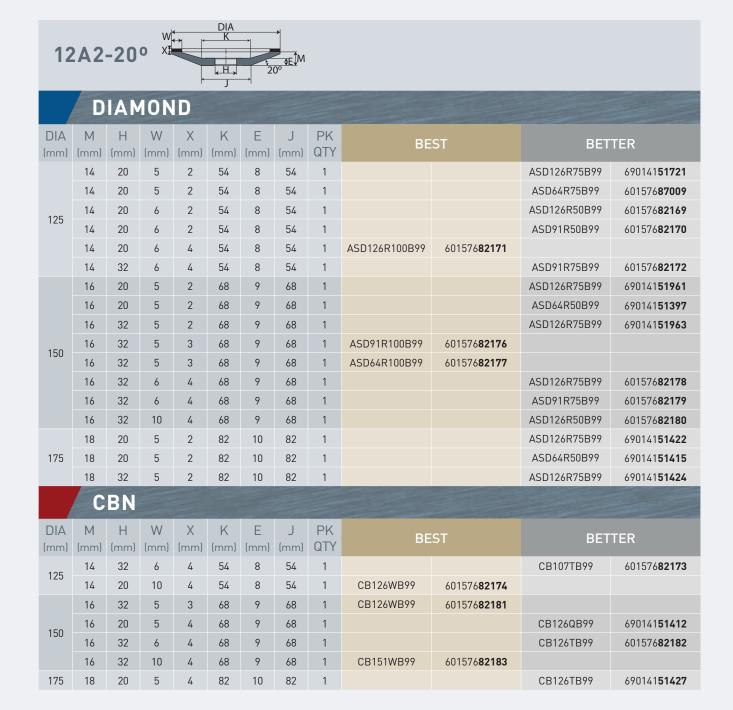
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		-	J	<del></del>									
	D	IAN	10N	ID									
DIA	Т	Н	Χ	U	K	Е	J	PK	BES1	-		DET	TER
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	QTY	DESI			DEI	IER
	30	16	1,5	10	40	10	53	1			ASD54R75B	99	690141 <b>52028</b>
75	30	20	2	10	40	10	53	1			ASD126R75E	399	690141 <b>5137</b>
75	30	20	2	10	40	10	53	1			ASD107R75E	399	601576 <b>82168</b>
	30	20	2	10	40	10	53	1	ASD64R100B99	601576 <b>81746</b>			
	35	20	1,5	10	55	10	75	1			ASD76R75B	99	690141 <b>5165</b> 6
	35	20	2	10	55	10	75	1			ASD126R75E	399	690141 <b>5138</b> 6
	35	20	2	10	55	10	75	1			ASD76R75B	99	690141 <b>5138</b>
100	35	20	2	10	55	10	75	1	ASD64R100B99	601576 <b>81747</b>			
	35	20	3	10	55	10	75	1			ASD126R75E	399	601576 <b>8174</b> 8
	35	20	3	10	55	10	75	1	ASD64R100B99	601576 <b>81749</b>			
	35	32	3	10	55	10	75	1			ASD126R75E	399	690141 <b>5166</b>
	40	20	3	10	75	10	96	1			ASD126R75E	399	690141 <b>5167</b> 2
125	40	20	3	10	75	10	96	1	ASD64R100B99	601576 <b>81750</b>			
	40	32	3	10	75	10	96	1			ASD126R75E	399	690141 <b>5167</b>
	C	BN											
DIA	Т	Н	Χ	U	K	Е	J	PK	250	BETTER			
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	QTY	BES1			BEI	IEK
	30	20	1,5	10	40	10	53	1	AZTECIV181TBX104	690141 <b>52323</b>			
75	30	20	2	10	40	10	53	1			CB126TB99		690141 <b>51379</b>
	30	20	2	10	40	10	53	1			CB91TB99		601576 <b>81792</b>
	35	20	1,5	10	55	10	75	1	AZTECIV181TBX104	690141 <b>52118</b>			
	35	20	1,5	10	55	10	75	1	AZTECIV126TBX104	690141 <b>52115</b>			
	35	32	1,5	10	55	10	75	1	AZTECIV181TBX104	690141 <b>52120</b>			
100	35	20	2	10	55	10	75	1			CB126TB99		690141 <b>51944</b>
	35	20	2	10	55	10	75	1			CB91TB99		601576 <b>81793</b>
	35	32	2	10	55	10	75	1			CB126TB99		690141 <b>51946</b>
	35	20	3	10	55	10	75	1	CB107WB99	601576 <b>81794</b>			

96 1 AZTECIV126TBX104 690141**52326** 

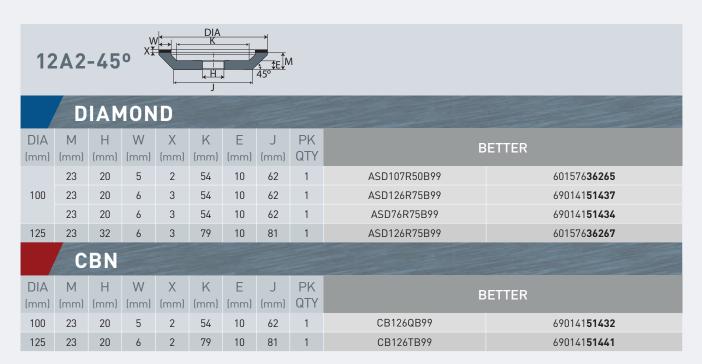
CB107TB99

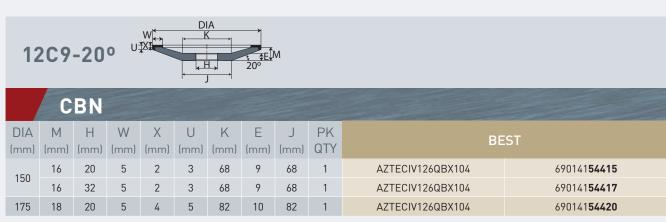
601576**81795** 

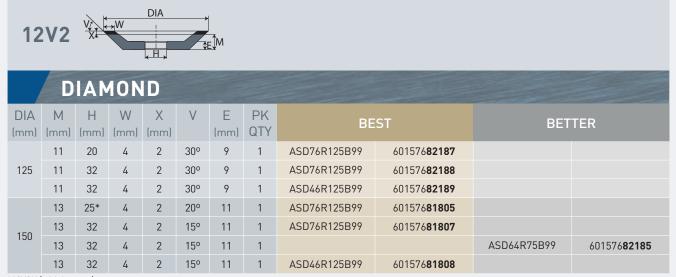






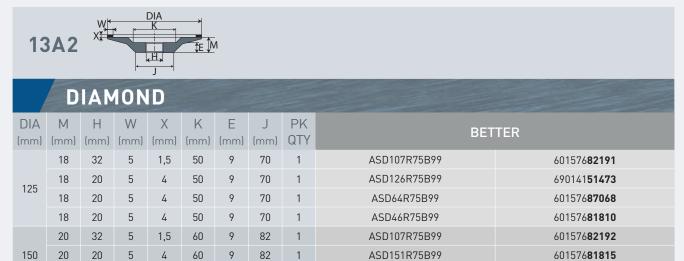






<sup>\*12</sup>V2K (with keyway)





ASD64R75B99

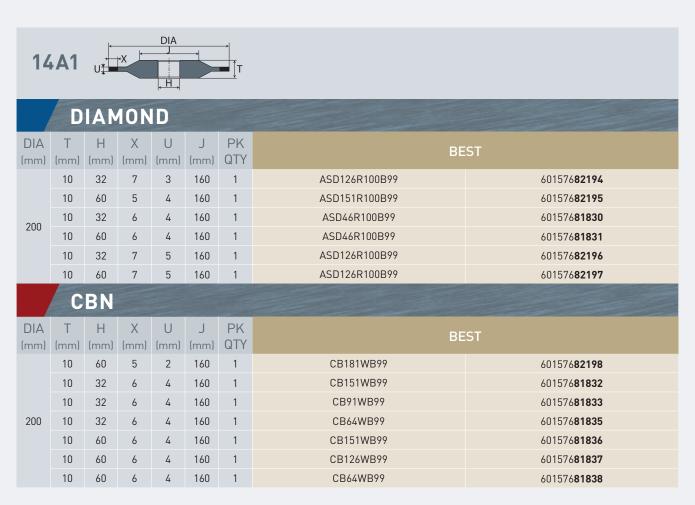
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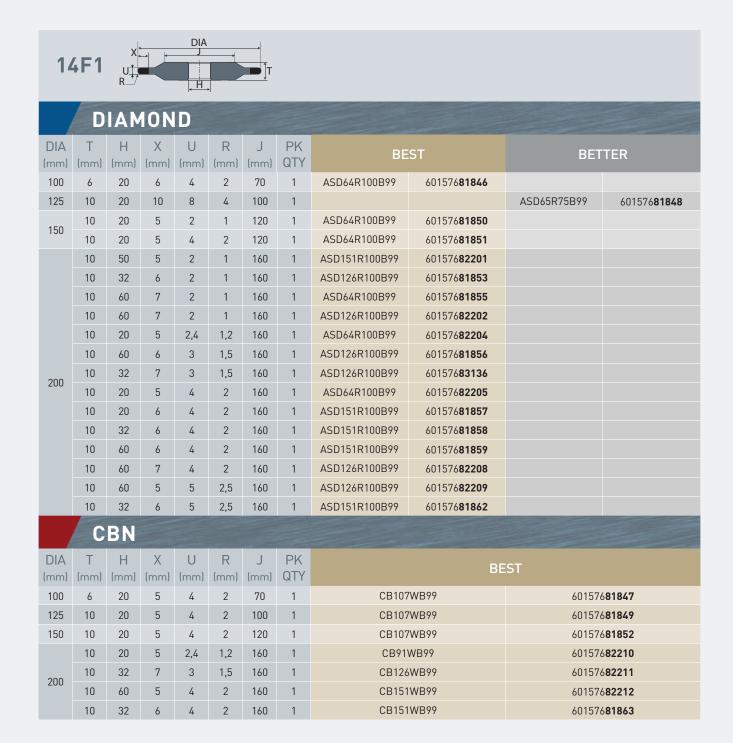
**81820** 





	C	BN								
DIA (mm)	M (mm)	H (mm)	W (mm)	X (mm)	K (mm)	E (mm)	J (mm)	PK QTY	BET	TER
105	18	20	5	4	50	9	70	1	CB151TB99	601576 <b>81812</b>
125	18	20	5	4	50	9	70	1	CB107QB99	601576 <b>81814</b>
	20	20	5	4	60	9	82	1	CB151TB99	601576 <b>81825</b>
150	20	20	5	4	60	9	82	1	CB126QB99	690141 <b>51479</b>
	20	20	5	4	60	9	82	1	CB107QB99	601576 <b>81826</b>

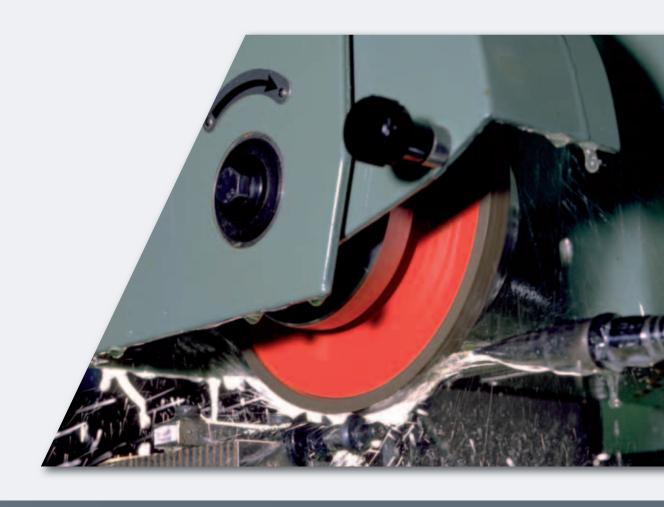








NOTES			



Electoplated pins with high quality Diamond and CBN grits

### **APPLICATIONS & MARKETS**

Internal grinding of:

- Carbides
- Short chipping materials
- HSS/high-alloy hardened steel









# E1A8W

	D	IAN	10N	D			
DIA	Т	Υ	L	L <sub>2</sub>	PK	RE	ST
(mm)	(mm)	(mm)	(mm)	(mm)	QTY		
1,5	5	3	40	7	4	DPS 76M	690141 <b>51200</b>
,	5	3	40	7	4	DPS 181M	690141 <b>51199</b>
2	5	3	40	12	4	DPS 76M	690141 <b>51168</b>
	5	3	40	12	4	DPS 181M	601576 <b>37973</b>
2,5	5	3	40	12	4	DPS 76M	690141 <b>51201</b>
3	5	3	50	15	4	DPS 76M	690141 <b>51170</b>
	5	3	50	15	4	DPS 181M	690141 <b>51169</b>
3,5	5	3	50		4	DPS 76M	690141 <b>51205</b>
4	5	3	50		4	DPS 76M	690141 <b>51173</b>
	5	3	50		4	DPS 181M	690141 <b>51172</b>
5	5	3	50		4	DPS 76M	690141 <b>51207</b>
	5	3	50		4	DPS 181M	690141 <b>51206</b>
6	6	6	64	14	3	DPS 76M	690141 <b>51178</b>
	6	6	64	14	3	DPS 181M	690141 <b>51177</b>
8	8	6	62		2	DPS 76M	690141 <b>51192</b>
	8	6	62		2	DPS 181M	690141 <b>51191</b>
10	10	6	80		2	DPS 76M	690141 <b>51195</b>
	10	6	80		2	DPS 181M	690141 <b>51194</b>
12	10	6	80		2	DPS 76M	601576 <b>36808</b>
	C	BN					
DIA	Т	Υ	L	L <sub>2</sub>	PK		
(mm)	(mm)	(mm)	(mm)	- <sub>2</sub> (mm)	QTY	BE	ST
0,7	3	3	32	4	4	XBS 76M	690141 <b>51184</b>
1	4	3	31	5	4	XBS 76M	690141 <b>51183</b>
1	4	3	31	5	4	XBS 181M	690141 <b>51188</b>
1,2	4	3	31	8	4	XBS 181M	690141 <b>51190</b>
1 5	5	3	40	7	4	XBS 76M	690141 <b>51203</b>
1,5	5	3	40	7	4	XBS 181M	690141 <b>51176</b>
2	5	3	40	12	4	XBS 76M	690141 <b>51202</b>
۷	5	3	40	12	4	XBS 181M	690141 <b>51180</b>
2,5	5	3	40	12	4	XBS 76M	690141 <b>51197</b>
2,3	5	3	40	12	4	XBS 181M	690141 <b>51198</b>
3	5	3	50	15	4	XBS 76M	690141 <b>51171</b>
3	5	3	50	15	4	XBS 181M	601576 <b>36804</b>
3,5	5	3	50		4	XBS 76M	690141 <b>51185</b>
3,3	5	3	50		4	XBS 181M	690141 <b>51186</b>
/.	5	3	50		4	XBS 76M	690141 <b>51175</b>
4	5	3	50		4	XBS 181M	690141 <b>51174</b>
F	5	3	50		4	XBS 76M	690141 <b>51179</b>
5	5	3	50		4	XBS 181M	601576 <b>36809</b>

# **ELECTROPLATED PINS**

	C	BN					
DIA (mm)	T (mm)	Y (mm)	L (mm)	L <sub>2</sub> (mm)	PK QTY	BE	ST
,	6	6	64	14	3	XBS 76M	601576 <b>36806</b>
6	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>
Ö	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>
10	10	6	80		2	XBS 76M	690141 <b>51182</b>
12	10	6	80		2	XBS 181M	601576 <b>37837</b>





NOTES			

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							
Highly recommended Recommended	STRAIGHT GRINDING WHEELS WITH	PROFILED GRINDING WHEELS	GRIT	AUTOMATIC DRESSING PROCESS	ECONOMICAL DRESSING	HIGH REMOVAL RATE		
DRESSING TOOL	NO PROFILE							
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**

### BENEFITS

- Synthetic multi-crystaline diamond
- 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**

### BENEFITS

Natural diamond

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			
Thickness ———————————————————————————————————	<35000	2	10,5x28			
Diar	35000-60000	3	20,5x28			
	60000-100000	4	20,5x28			

# **DIAMOND DRESSERS**

BLADE TOOL DRESSERS								
W (mm)	L (mm)	DL (mm)	GRIT	PK QTY	BE	ST	BET	TER
	28	12	D711	1			HPB-D 30	601576 <b>82759</b>
10,5	28	12	D1001	1			HPB-D 45	601576 <b>82782</b>
10,5	28	12	D1181	1			HPB-D 60	601576 <b>82786</b>
	28	12	NEEDLE	1			HPB-D	601576 <b>82790</b>
	28	10	D711	1			HPB-C 30	601576 <b>82801</b>
20,5	28	10	D1001	1			HPB-C 45	601576 <b>82806</b>
20,5	28	10	D1181	1			HPB-C 60	601576 <b>82809</b>
	28	10	NEEDLE	1			HPB-C	601576 <b>82814</b>
	28	4	0,6x0,6	1	HPB-D 3565 / 2	601576 <b>82820</b>		
	28	4	0,6x0,6	1	HPB-D 3565 / 3	601576 <b>82856</b>		
10,5	28	4	0,6x0,6	1	HPB-D 3565 / 4	601576 <b>82895</b>		
10,5	28	4	0,8x0,8	1	HPB-D 3585 / 2	601576 <b>82899</b>		
	28	4	0,8x0,8	1	HPB-D 3585 / 3	601576 <b>82902</b>		
	28	4	0,8x0,8	1	HPB-D 3585 / 4	601576 <b>82904</b>		

SC	SCREWED SHANKS FOR BLADE TOOL DRESSERS							
DIA (mm)	L (mm)	SHANK CODE	PK QTY	BE	ST			
12,065	40	MT1	1	HPB-H3	601576 <b>82832</b>			
9,045	25,5	MT0	1	HPB-H4	601576 <b>82907</b>			
11,11	50	Z11,11	1	HPB-H2	601576 <b>82910</b>			
10,00	50	Z10	1	HPB-HX	601576 <b>82911</b>			

 $\textbf{Dimensions Key:} \ \mathsf{DIA} = \mathsf{Diameter,} \ \mathsf{W} = \mathsf{Width,} \ \mathsf{L} = \mathsf{Length,} \ \mathsf{DL} = \mathsf{Diamond} \ \mathsf{Length}$ 





# FEATURES BENEFITS Highest quality diamonds Single Features High performance tools BENEFITS Especially developed for dressing ceramic abrasive (SG/TG) wheels which require faster traverse speed dressing Finables dressing costs to be reduced, especially at production grinding stations



# **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					
Thickness	< 6000	0,33 Carat					
Dian	6000 – 18000	0,50 Carat					
	> 18000	1,0 Carat					
For hest results, always use a coolant when dressing							

SIN	SINGLE-POINT DRESSERS								
SHANK	CARAT	PK	BEST	BETTER					
(mm)	CARAI	QTY	BC SG	BC					
	0,33	1		662601 <b>61753</b>					
Z8	0,50	1	662601 <b>61757</b>	662601 <b>61752</b>					
	1,00	1	662601 <b>61755</b>	662601 <b>61750</b>					
	0,33	1	662601 <b>61769</b>	662601 <b>61764</b>					
Z10	0,50	1	662601 <b>61768</b>	662601 <b>61763</b>					
	1,00	1	662601 <b>61766</b>	662601 <b>61761</b>					
	0,33	1	662601 <b>56906</b>	662601 <b>95003</b>					
Z11,11	0,50	1	662601 <b>56907</b>	662601 <b>95005</b>					
	1,00	1	662601 <b>57010</b>	662601 <b>95009</b>					
	0,33	1		662601 <b>61775</b>					
Z12	0,50	1	662601 <b>61779</b>	662601 <b>61774</b>					
	1,00	1	662601 <b>61777</b>						



PROFILE DRESSER								
SHANK (mm)	RADIUS (mm)	ANGLE	BE	ST				
	0,13	40°	DC 40/130	601576 <b>82850</b>				
	0,25	40°	DC 40/250	601576 <b>82889</b>				
70 F2	0,50	40°	DC 40/500	601576 <b>82901</b>				
Z9,52	0,13	60°	DC 60/130	601576 <b>82903</b>				
	0,25	60°	DC 60/250	601576 <b>82905</b>				
	0,50	60°	DC 60/500	601576 <b>82909</b>				



# BEST

# **MULTI-POINT DRESSER**

## **FEATURES**

## **BENEFITS**

Economical & robust tool

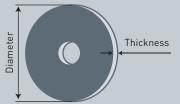
Ideal for straight dressing at high speed with low technical demands



# **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 MHEEL BY II:	STHICK	NESS
	Diam	natar v 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	ODIT	PK	BEST									
(mm)	GRIT	QTY	D11x11 (5 CARAT)	D8x11 (2,5 CARAT)	D6x8 (1,3 CARAT)							
	D2240	1	601576 <b>82849</b>	601576 <b>82915</b>								
Z8	D1001	1	601576 <b>82896</b>	601576 <b>82920</b>								
28	D711	1	601576 <b>82906</b>	601576 <b>82970</b>	601576 <b>82986</b>							
	D301	1			601576 <b>83153</b>							
	D2240	1	601576 <b>82892</b>	601576 <b>82916</b>								
Z10	D1001	1	601576 <b>82897</b>	601576 <b>82922</b>								
210	D711	1	601576 <b>82908</b>	601576 <b>82968</b>	601576 <b>82990</b>							
	D301	1			601576 <b>83154</b>							
	D2240	1	601576 <b>82893</b>	601576 <b>82917</b>								
711 11	D1001	1	601576 <b>82898</b>	601576 <b>82923</b>								
Z11,11	D711	1	601576 <b>82912</b>	601576 <b>82977</b>	601576 <b>82992</b>							
	D301	1			601576 <b>83155</b>							
	D2240	1	601576 <b>82894</b>	601576 <b>82918</b>								
MT1	D1001	1	601576 <b>82900</b>	601576 <b>82925</b>								
12,065	D711	1	601576 <b>82914</b>	601576 <b>82981</b>	601576 <b>82996</b>							
	D301	1			601576 <b>83156</b>							

	HAND DRESSE	ER	
	FEATURES	BENEFITS	
-	High diamond concentration	High wear resistance & long lifetime	
BE	■ Grit 18/25 SPC	Suitable for face & side dressing	

HAND	DRESSER							
PK QTY	BE	BEST						
1	HD-150	601576 <b>82852</b>						





# BEST

# **BRAKE CONTROLLED TRUING DEVICE**

### **FEATURES**

### BENEFITS

For fast effective truing of Diamond & CBN wheels with minimum loss of abrasive 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	ВЕ	EST					
1	BCTD	662602 <b>74459</b>					

# REPLACEMENT WHEELS

DIA (mm)	T (mm)	B (mm)	PK QTY	BE	ST
80	25	13	10	Wheel 37C60-NV	699366 <b>68764</b>

# **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

# 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





DIAM	DIAMOND COMPOUND PASTE														
GRADE (MICRONS)	COLOUR	CONTENTS	PK QTY	BEST											
1/4	GREY	5g	1	690141 <b>54990</b>											
1/2	LIGHT GREY	5g	1	690141 <b>54991</b>											
1	IVORY	5g	1	690141 <b>54992</b>											
3	YELLOW	5g	1	690141 <b>54993</b>											
6	ORANGE	5g	1	690141 <b>54994</b>											
9	GREEN	5g	1	690141 <b>54995</b>											
12	LIGHT BLUE	5g	1	690141 <b>54996</b>											
15	BLUE	5g	1	690141 <b>54997</b>											
20	BROWN	5g	1	690141 <b>54998</b>											
30	RED	5g	1	690141 <b>54999</b>											
45	CHESTNUT	5g	1	690141 <b>55000</b>											
60	VIOLET	5g	1	690141 <b>55001</b>											





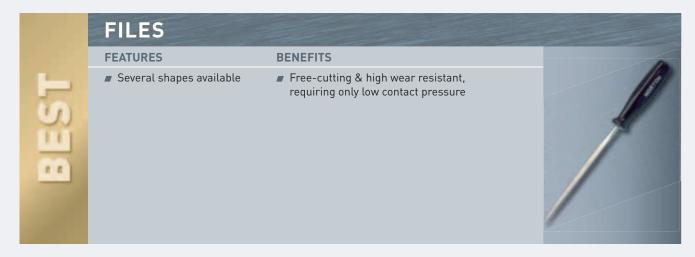
NOTES			
-			

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





FILES	FILES													
SHAPE	T (mm)	H (mm)	L (mm)	PK QTY	BEST									
	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>									
	Ø	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

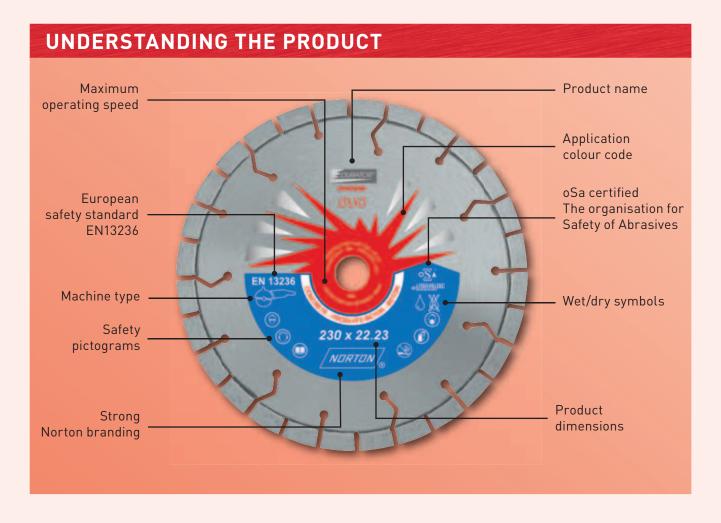




# Diamond Blades

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.





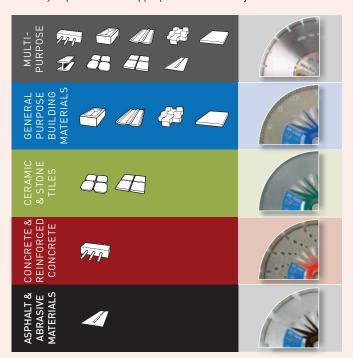


# **DIFFERENTIATION IN THE RANGE**

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.



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.



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

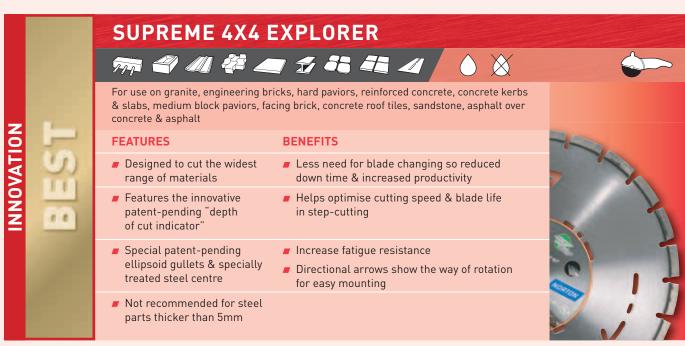
# **ANGLE GRINDERS**

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





















# **PROFESSIONAL TP**













### **FEATURES**

### **BENEFITS**

- Brazed, segmented diamond blade especially designed for the removal of mortar prior to rejointing
- Premium performance



- Tungsten carbide tips
- Gives undercutting protection

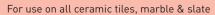
# **PROFESSIONAL T**











### **FFATURES**

### **BENEFITS**

- Sintered, continuous rim diamond blade
- High-quality diamond blade with excellent performance
- Long product life combined with an excellent cutting speed

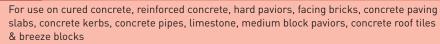


# PROFESSIONAL LASER









### **FEATURES**

### **BENEFITS**

- Laser-welded, segmented diamond blade
- 10mm segment height
- Longer life
- Diamond-shape apertures on 230mm diamond blades
- Prevent over-heating of the diamond blade

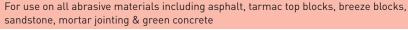


# PROFESSIONAL ABRASIVE









# **FEATURES**

## **BENEFITS**

- Laser-welded, segmented diamond blade
- Ideal for use on abrasive & very abrasive materials
- A high quality product for high demanding applications



# **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

### **BENEFITS**

- Sintered, continuous rim diamond blade with corrugated segments
- Economy diamond blade
- Value for money



# **CLASSIC LASER**







roof tiles, medium block paviors, concrete paving slabs







### **FEATURES**

### **BENEFITS**

- Laser-welded, segmented diamond blade
- Economy diamond blade
- Value for money



# **CLASSIC UNI**













For use on concrete pipes, concrete kerbs, roof tiles, medium block paviors & concrete paving slabs

### **FEATURES**

### **BENEFITS**

- Sintered, segmented diamond blade
- Economy diamond blade
- 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**

### **BENEFITS**

- Single rim, brazed, segmented cup grinder
- Slant segments
- Value for money
- Hollow steel centre
- Makes the product very light weight



# **CLASSIC T**











Suitable for use on ceramic tiles

### **FEATURES**

### **BENEFITS**

- Sintered, continuous rim diamond blade
- Economy diamond blade
- Value for money







PRODUC	T	SE	L	E	T	10	N									
USAGE KEY  Highly recommended	Supreme	Supreme	Supreme	Supreme	Professional	Professional	Professional	Professional	Professional	Classic	Classic	Classic	Classic		Supreme	Classic
Highly recommended Recommended	4x4 Explorer	Aero Jet	XT	Duo	Jet	ТР	<b>-</b>	Laser	Abrasives	Jet	Laser	Uni	_	CUP GRINDERS	C62	S90
		BE	ST			В	ETTE	R			GO	OD		ln:	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																



		_	/ GEN	NERAL	PURPO	DSE BU	ILDING	MATE	RIALS	
			SUPREME AERO JET	SUPREME CG2	PRO JET	PRO TP	CLASSIC JET	CLASSIC LASER	CLASSIC UNI	CLASSIC CGS
DIA (mm)	HxTxB (mm)	PK QTY	BE	ST	BET	TER		GO	OD	
100	22,23/16	1		701846 <b>10268</b>						
105	22,23	1								701846 <b>24781</b>
	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>			
445	10,0x2,2x22,23	1			701846 <b>11156</b>					
115	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>				
	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>		
125	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>	
130	22,23/19	1								701846 <b>24760</b>
	10,0x2,2x22,23	1					701846 <b>14092</b>		701846 <b>14125</b>	
180	7,0x2,5x22,23	1						701846 <b>14122</b>		
	22,23	1		701846 <b>10270</b>						701846 <b>24782</b>
	12,0x2,8x22,23	1	701846 <b>23181</b>							
230	10,0x2,2x22,23	1							701846 <b>14126</b>	
230	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





8	CERAMIC & STONE TILES								
			SUPREME XT	PROFESSIONAL T	CLASSIC T				
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER	GOOD				
	10,0x1,2,22,23	1	701846 <b>21964</b>						
115	9,0x1,6x22,23	1		701846 <b>26074</b>					
	7,0x1,5x22,23	1			701846 <b>14094</b>				
125	10,0x1,2x22,23	1	701846 <b>21966</b>						
123	9,0x1,6x22,23	1		701846 <b>26075</b>					
	7,0x1.6x22,23	1			701846 <b>14095</b>				
180	9,0x1,6x22,23	1		701846 <b>26076</b>					
100	7,0x1,7x22,23	1			701846 <b>14096</b>				
230	10,0x1,8x22,23	1	701846 <b>21972</b>						

77	CONCRETE & REINFORCED CONCRETE									
			SUPREME DUO	PROFESSIONAL LASER						
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER						
115	10,0x2,2x22,23	1		701846 <b>12290</b>						
125	10,0x2,2x22,23	1		701846 <b>12291</b>						
230	12,0x2,8x22,23	1	701846 <b>12087</b>							
230	10,0x2,5x22,23	1		701846 <b>12292</b>						

A	ASPHALT & ABRASIVE MATERIALS							
PROFESSIONAL ABRASIVE								
DIA (mm)	HxTxB (mm)	PK QTY	BETTER					
115	7,0x2,2x22,23	1	701846 <b>11170</b>					
125	7,0x2,2x22,23	1	701846 <b>11171</b>					
230	7,0x2,5x22,23	1	701846 <b>11174</b>					

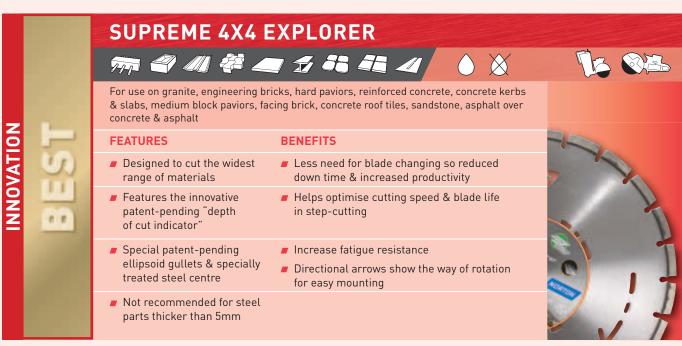
# PETROL HAND HELD & FLOOR SAWS

Norton offers a large range of high performance diamond tools for all applications and user needs.

# **APPLICATIONS & MARKETS**

- Construction
- Civil Engineering
- Road Contractors











# **SUPREME DUO** For use only with hand held petrol saws on engineering bricks, cured concrete, reinforced concrete, hard paviors, concrete paving slabs, concrete kerbs, concrete pipes, limestone, medium block paviors & facing bricks **FEATURES BENEFITS** Laser-welded, segmented diamond blade Extreme long life 10mm segment height Double segments Exceptional cutting speed Very soft cut Low vibrations Special gullets indicate Easy to mount the way of rotation



# PETROL HAND HELD & FLOOR SAWS

QUICKFIX REDUCTION RINGS		
For use only with petrol saws		
FEATURES	BENEFITS	
A patented device designed to safety convert blade bores to suit different machines		
Converts 300mm & 350mm x 25,4mm or 22,23mm bore to 20mm	Can reduce inventory	

PRODUCT	SELECT	TION			
	Supreme	Supreme	Professional	Professional	
USAGE KEY	4x4 Explorer	Duo	Beton	Asphalt	
Highly recommended					
Recommended	INNOVATION BEST	BEST	BET	TER	
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					







7-1-1	CONCRETE & REINFORCED CONCRETE									
			SUPREME DUO*	PROFESSIONAL BETON						
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER						
300	10,0x2,8x20	1	701846 <b>20039</b>	701846 <b>25424</b>						
300	10,0x2,8x25,4	1	701846 <b>25422</b>							
350	10,0x3,2x20	1	701846 <b>20040</b>							
330	10,0x3,2x25,4	1	701846 <b>25423</b>	701846 <b>25425</b>						

<sup>\*</sup>Only for use with petrol saws

Î	ASPHALT & ABRASIVE MATERIALS								
			PROFESSIONAL ASPHALT						
DIA (mm)	HxTxB (mm)	PK QTY	BETTER						
300	7,0x2,8x20	1	701846 <b>11852</b>						
300	7,0x2,8x25,4	1	701846 <b>11854</b>						
250	7,0x3,2x20	1	701846 <b>11855</b>						
350	7,0x3,2x25,4	1	701846 <b>11856</b>						

QU	QUICKFIX REDUCTION RINGS							
DIA (mm)	BORE (mm)	PK QTY	QUICKFIX					
100	25,4/22,23	1	701846 <b>22589</b>					
103	25,4/22,23/20	1	701846 <b>23894</b>					

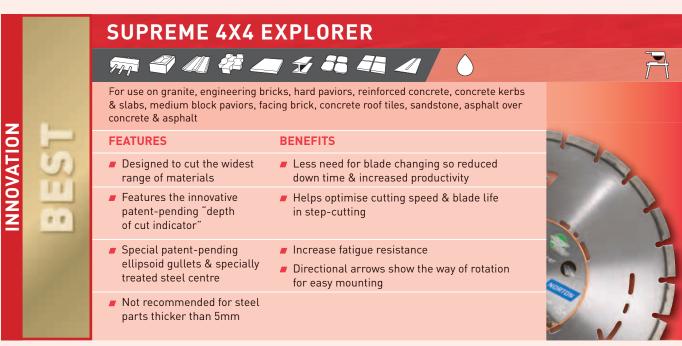
**Dimensions Key:** DIA = Diameter, H = Height, T = Thickness, B = Bore

Norton offers the best range of diamond tools for masonry saws ensuring great performance and clean results in wet cutting conditions.

# **APPLICATIONS & MARKETS**

Construction











# SUPREME DUO TS 944 For use on general purpose masonry materials, granite, concrete slabs, reinforced concrete, hard paviors, hard facing bricks, concrete roof tiles **BENEFITS** Laser-welded diamond blade Long product life 12mm segment height High quality diamond Extremely high cutting speed blade Trapezoidal segments 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 BENEFITS** For professional cutting of tiles Extra-thin diamond blade ■ The best quality of cut & cutting speed even on the hardest tiles Additional metal flanges Prevent wobbling of the steel-centre during the cut 10mm continuous rim 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 BENEFITS** Laser-welded, segmented

Extreme long life

Low vibrations

Easy to mount

Exceptional cutting speed

diamond blade10mm segment height

Double segments

Special gullets indicate

the way of rotation

Very soft cut



# **PROFESSIONAL BS**

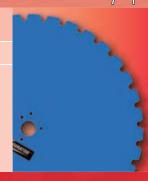


For use on general purpose masonry materials, breeze blocks, concrete paving slabs & concrete pipes/kerbs

### **FEATURES**

### **BENEFITS**

Brazed, segmented diamond blade Ideal for abrasive to medium hard material



# **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



# **PROFESSIONAL GRANIT**





For use on granite, hard materials, engineering bricks, hard pavoirs  $\&\ slate$ 

## **FEATURES**

# **BENEFITS**

- Laser-welded diamond blade
- Excellent cutting speed
- 10mm segment height
- Long life
- Professional blade for intensive use



# **PROFESSIONAL BETON**





For use on cured concrete, reinforced concrete, concrete paving slabs, concrete pipes/kerbs, medium block paviors & concrete roof tiles

### **FEATURES**

### **BENEFITS**

- Laser-welded diamond blade with 10mm high segments
- Features the innovative patent-pending "depth of cut indicator"
- 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
- High-quality diamond blade
  Excellent performance











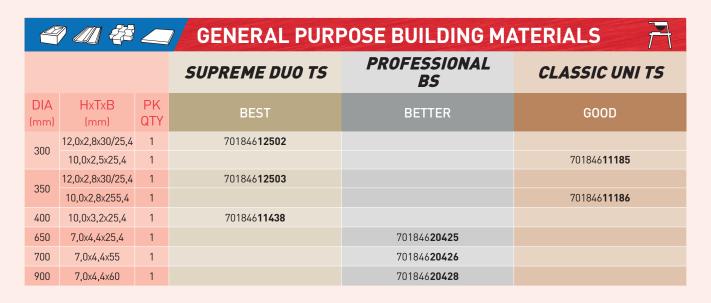


PRODUCT	SE	LEC	TIO	N					
USAGE KEY  Highly recommended	Supreme	Supreme	Supreme	Supreme	Professional	Professional	Professional	Professional	Classic
Highly recommended  Recommended	4x4 Explorer	Duo TS	XT	Duo	BS	Ceram	Granit	Beton	Uni TS
		ВЕ	ST			BET	TER		GOOD
Steel									
Granite									
Engineering 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									
Asphalt									

7-1-1	MULTI-PURPOSE								
				SUPREME 4x4 EXPLORER					
DIA	HxTxB	PK	INNOVATION	BEST					
(mm)	(mm)	QTY	INTOVATION	DEST					
300	10,0x2,8x25,4	1		701846 <b>22937</b>					
350	10,0x3,0x25,4	1		701846 <b>22939</b>					
400	10,0x3,2x25,4	1		701846 <b>23899</b>					
450	10,0x3,4x25,4	1		701846 <b>25430</b>					







8	CERAMIC & STONE TILES								
			SUPREME XT	PROFESSIONAL CERAM	PROFESSIONAL GRANIT				
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BET	TER				
150	9,0x1,6x25,4	1		701846 <b>26077</b>					
180	9,0x1,6x25,4	1		701846 <b>26078</b>					
	10,0x1,6x25.4	1	701846 <b>25427</b>						
200	9,0x1,6x25,4	1		701846 <b>26079</b>					
	9,0x1,6x30	1		701846 <b>26080</b>					
250	10,0x1,6x25,4	1	701846 <b>25428</b>						
250	9,0x1,6x25,4	1		701846 <b>26081</b>					
	10,0x1,8x25,4	1	701846 <b>25429</b>						
300	10,0x2,5x25,4	1			701846 <b>11187</b>				
	9,5x2,0x25,4	1		701846 <b>26082</b>					
350	10,0x2,8x25,4	1			701846 <b>11188</b>				
330	9,5x2,0x25,4	1		701846 <b>26083</b>					

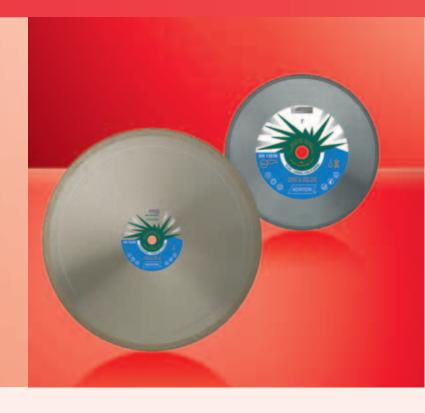
CONCRETE & REINFORCED CONCRETE					
			SUPREME DUO	PROFESSIONAL BETON	
DIA (mm)	HxTxB (mm)	PK QTY	BEST	BETTER	
300	10,0x2,8x25,4	1	701846 <b>25422</b>		
350	10,0x3,2x25,4	1	701846 <b>25423</b>	701846 <b>25425</b>	

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

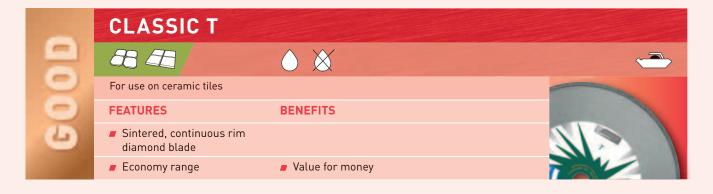
Norton tile saw blades come in a range of sizes designed to all common tile saw machines.

# **APPLICATIONS & MARKETS**

- Construction
- Tiling
- Bathroom fitting
- Kitchen fitting











PRODUCT SELECTION				
USAGE KEY	Professional	Classic		
Highly recommended  Recommended	Ceram	Т		
	BETTER	GOOD		
Granite				
Clay/pipes/paviors				
Quarry tiles				
Marble				
Terrazo				
Slate				

8	CERAMIC & STONE TILES						
			PROFESSIONAL CERAM	CLASSIC T			
DIA (mm)	HxTxB (mm)	PK QTY	BETTER	GOOD			
150	9,0x1,6x25,4	1	701846 <b>24202</b>				
180	9,0x1,6x25,4	1	701846 <b>11279</b>				
180	7,0x1,7x25,4	1		701846 <b>12204</b>			
	9,0x1,6x25,4	1	701846 <b>11190</b>				
200	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>				

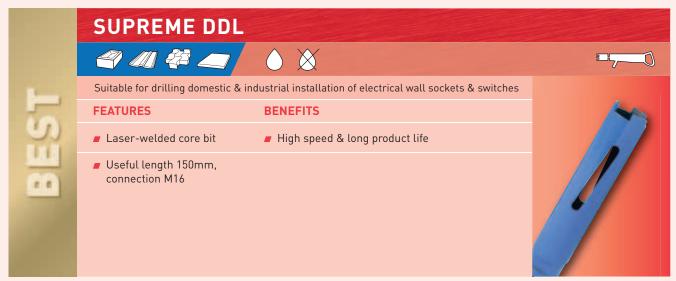
**Dimensions Key:** DIA = Diameter, H = Height, T = Thickness, B = Bore

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















#### **PRODUCT SELECTION** Professional **USAGE KEY** $\otimes$ Highly recommended **CORE BITS** Recommended CDE BETTER BETTER GOOD GOOD Cured concrete Hard paviors Reinforced concrete Concrete paving slabs Medium block paviors Asphalt



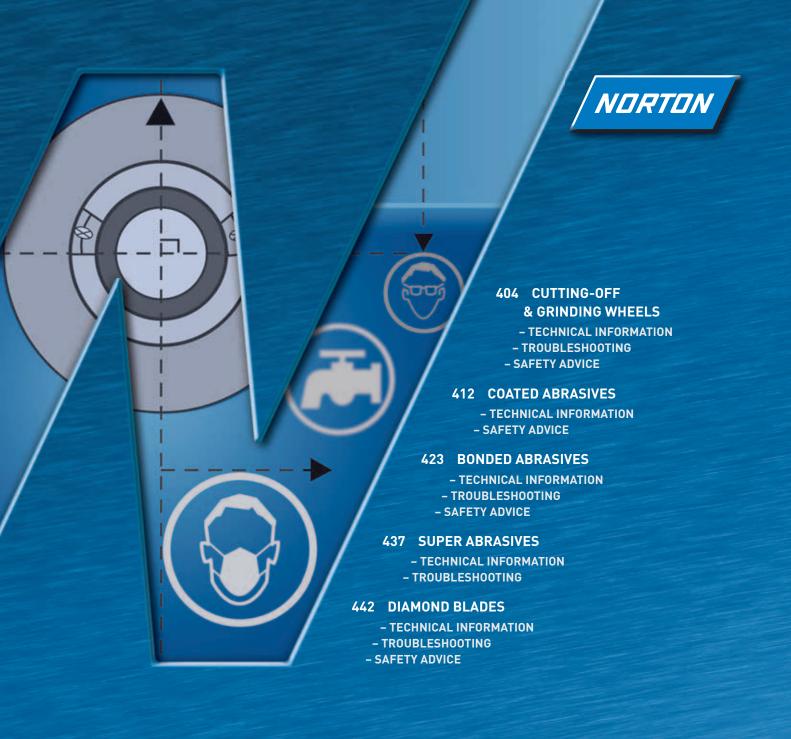


	CORE BITS – DRY					
		SUPREME DDL	PROFESSIONAL DD5	CLASSIC KSZ		
DIA (mm)	Useful Length (mm)	Segment Height (mm)	PK QTY	BEST	BETTER	GOOD
28	300	7	1		701846 <b>20351</b>	
36	150	7	1	701846 <b>23577</b>		
38	150	7	1		701846 <b>20352</b>	
52	150	7	1	701846 <b>23580</b>	701846 <b>20353</b>	
65	150	7	1	701846 <b>22640</b>		
68	60	7	1			701846 <b>20422</b>
78	150	7	1		701846 <b>20354</b>	
82	60	7	1			701846 <b>20423</b>
02	150	7	1	701846 <b>22641</b>		
102	150	7	1	701846 <b>23582</b>		
107	150	7	1	701846 <b>22642</b>	701846 <b>20355</b>	
117	150	7	1		701846 <b>20356</b>	
127	150	7	1	701846 <b>22643</b>	701846 <b>20357</b>	
152	150	7	1	701846 <b>23584</b>	701846 <b>20358</b>	
162	150	7	1	701846 <b>22644</b>		

7-1-1	COR	E BITS	- W	ET	<b>↑</b> /\
				PROFESSIONAL DK	CLASSIC CDE
DIA (mm)	Useful Length (mm)	Segment Height (mm)	PK QTY	BETTER	GOOD
12	300	7	1	701846 <b>12946</b>	
14	300	7	1	701846 <b>12947</b>	
16	300	7	1	701846 <b>12823</b>	
18	300	7	1	701846 <b>12824</b>	
22	300	7	1	701846 <b>12826</b>	
25	300	7	1	701846 <b>12827</b>	
28	300	7	1	701846 <b>12828</b>	
30	300	7	1	701846 <b>12829</b>	
32	300	7	1	701846 <b>12830</b>	
35	300	7	1	701846 <b>12831</b>	
40	300	7	1	701846 <b>12834</b>	
Г1	300	7	1	701846 <b>12835</b>	
51	450	7	1		701846 <b>13201</b>
56	450	7	1		701846 <b>13202</b>
/ 1	300	7	1	701846 <b>12836</b>	
61	450	7	1		701846 <b>13203</b>
66	450	7	1		701846 <b>13204</b>
70	300	7	1	701846 <b>12848</b>	
71	450	7	1		701846 <b>13205</b>
76	450	7	1		701846 <b>13206</b>
0.1	300	7	1	701846 <b>12846</b>	
81	450	7	1		701846 <b>13207</b>
86	450	7	1		701846 <b>13208</b>
91	450	7	1		701846 <b>13209</b>
101	450	7	1		701846 <b>13210</b>
106	450	7	1		701846 <b>13211</b>
111	450	7	1		701846 <b>13212</b>
121	450	7	1		701846 <b>13213</b>
126	450	7	1		701846 <b>13214</b>
131	450	7	1		701846 <b>13215</b>
141	450	7	1		701846 <b>13216</b>
151	450	7	1		701846 <b>13217</b>
161	450	7	1		701846 <b>13218</b>
171	450	7	1		701846 <b>13219</b>
181	450	7	1		701846 <b>13220</b>
191	450	7	1		701846 <b>13221</b>
201	450	7	1		701846 <b>13222</b>
211	450	7	1		701846 <b>13223</b>
225	450	7	1		701846 <b>13252</b>
251	450	7	1		701846 <b>13224</b>
271	450	7	1		701846 <b>13253</b>
300	450	7	1		701846 <b>13225</b>

**Dimensions Key:** DIA = Diameter





# Technical Information

# **CUTTING-OFF & GRINDING WHEELS**

# TECHNICAL INFORMATION

# **SHAPE SPECIFICATION SYSTEM**

BF 27

Depressed centre grinding wheels. Available in diameters 76-230mm for hand-held machines

Application: grinding

BF 29

Depressed centre grinding wheels. Available in diameters 115mm & 125mm for hand-held machines

Application: grinding

BF 41

Flat cutting-off wheels. Available in diameters 40-400mm for hand-held machines & 250-400mm for stationery machines

Application: cutting-off

BF 42

Depressed centre cutting-off wheels. Available in diameters 76-230mm for hand-held machines

Application: cutting-off

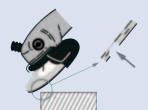
## RECOMMENDED PRACTICE

#### **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







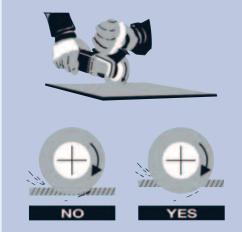
#### **GRINDING Finishing Work**

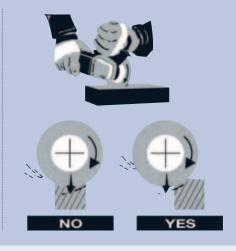
- Angle of work 15°
- Rotary action

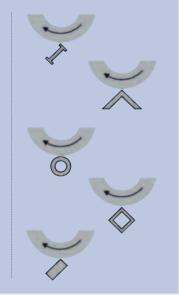


#### **CUTTING-OFF**

Arrange the workpiece so that a uniform section can be cut











#### **FIXED MACHINE**

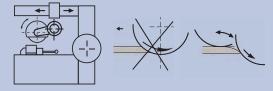
#### **DOWNSTROKE HEADS**

- 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

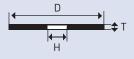


## **TYPES OF REINFORCEMENT**

#### 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

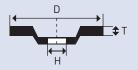
■ For use on portable or fixed machines



#### **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



# **CUTTING-OFF & GRINDING WHEELS**

## **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.







Wear



Eye Protection



Ear Protection



Read Instructions



Damaged Wheel

– Do not use



Dr



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	SPEED CONVERSION FOLLOWING EN 12413								
(mm)			MAX	IMUM OP	ERATING	SPEED (F	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

# **CUTTING-OFF & GRINDING WHEELS**

# **TROUBLESHOOTING**

# **CUTTING-OFF WHEELS**

#### WHEEL DOES NOT CUT

Cause	In case of blue cutting: wheel too hard or too thick
Solution	Use softer or Norton Thin Cut wheels, check peripheral speed

Cause Peripheral speed too low

Solution Increase rpm up to max. (80m/sec)

#### **EXCESSIVE WEAR**

Cause	In case of white cutting edge: wheel too soft
Solution	Use harder wheel
Cause	Operating speed too low
Solution	Increase rpm up to max (80m/sec)
Cause	Decrease of rom during cutting

Solution Use machine with more power, reduce pressure on the machine

#### **CRUMBLED WHEEL EDGE**

Cause	Cutting-off wheel used for grinding operations		
Solution	Use a grinding wheel for grinding operations		
Cause	Workpiece is moving		
Solution	Clamp the workpiece properly		
Cause	Too much side-pressure		
Solution	Add only the radial pressure to the wheel		

#### ARBOR HOLE OR CENTRE BREAK OUT

Cause	Wheel sticks in the workpiece/material
Solution	Use more radial pressure & swing the wheel forwards and backwards
Cause	Cutting-off wheel used for grinding operations
Solution	Use a grinding wheel for grinding operations
Cause	Too much side pressure
Solution	Add only the radial pressure to the wheel
Cause	Different diameter top/bottom flange
Solution	Use flanges with the same diameter





GRINDING V	VHEELS					
WHEEL DOES NOT	CUT					
Cause	Wheel too hard, wheelglazing					
Solution	Use softer wheel					
Cause	Not enough pressure					
Solution	Increase pressure					
Cause	Machine power too low					
Solution	Use machine with more power					
Cause	Loading & wheelglazing (non-ferrous)					
Solution	Use Norton Alu wheels which counteract loading & wheelglazing					
EXCESSIVE WHEEL	WEAR					
Cause	Wheel too soft					
Solution	Use harder wheel					
Cause	Too much pressure					
Solution	Reduce pressure, let the wheel do the grinding					
Cause	Decrease of peripheral speed					
Solution	Use machine with more power, reduce pressure on the machine					
Cause	Too low peripheral speed					
Solution	Max. 80m/sec is optimum speed					
CRUMBLED WHEEL	. EDGE					
Cause	Grinding angle too flat					
Solution	Change angle to 30 - 40°					
Cause	Workpiece is moving					
Solution	Clamp the workpiece properly					
Cause	Too much pressure					
Solution	Reduce pressure, let the wheel do the grinding					
CRACKS ON THE BO	OTTOM OF THE WHEEL					
Cause	Contact area too large					
Solution	Reduce contact area					
Cause	Too much pressure					
Solution	Reduce pressure, let the wheel do the grinding					
UNBALANCE						
Cause	Dirty flanges					
Solution	Clean flanges					
Cause	Wheel mounting insecure					
Solution	Tighten flanges					
Cause	Flanges with different diameter					

Solution

Replace flanges

# **CUTTING-OFF & GRINDING WHEELS**

# **SAFETY ADVICE**

D0s		
1	DO	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
1	DO	Always visually inspect all wheels before mounting for possible damage in transit
<b>/</b>	DO	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. NON-REINFORCED CUTTING-OFF WHEELS SHOULD ONLY BE USED ON FIXED MACHINES & SHOULD BE CORRECTLY GUARDED.
1	DO	Always switch 'OFF' the power at supply source &/or remove the plug from the socket before changing the wheel
<b>/</b>	DO	Always ensure that the spindle speed of the machine does not exceed the operating speed marked on the wheel
<b>/</b>	DO	Always use the correct wheel mounting flanges & ensure that they are undamaged, clean & free from burrs
<b>√</b>	DO	SEE EN 12413
1	DO	Allow newly mounted wheels to run at operating speed, with the guard in place, for a reasonable time before cutting or grinding
<b>√</b>	DO	Always wear EYE PROTECTION
1	DO	Always wear appropriate safety clothing such as DUST MASK, GLOVES, EAR PROTECTION, OVERALLS & SAFETY SHOES
1	DO	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
1	DO	Check tension of driving belts, where fitted, on a regular basis. Belts must be kept tight to ensure full power transmission.
1	DO	Always secure the workpiece firmly while it is being cut or ground
1	DO	Put portable machines in suitable cradles, when not being used, to avoid damage to the wheel
1	DO	Always use a portable machine in a comfortable position, where the workpiece is well balanced & the machine is well supported
1	DO	Grind at an angle above 30 degrees to the workpiece with a depressed centre grinding wheel
1	DO	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
	D0 D0 D0 D0 D0	Always wear appropriate safety clothing such as DUST MASK, GLOVES, EAR PROTECTION, OVERALLS & SAFETY SHOES  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  Check tension of driving belts, where fitted, on a regular basis. Belts must be kept tight to ensure full power transmission.  Always secure the workpiece firmly while it is being cut or ground  Put portable machines in suitable cradles, when not being used, to avoid damage to the wheel  Always use a portable machine in a comfortable position, where the workpiece is well balanced & the machine is well supported  Grind at an angle above 30 degrees to the workpiece with a depressed centre grinding wheel  Keep the working area around cutting & grinding operations clear. It is very dangerous if an operator





DON'	Ts	
×	DON'T	Handle wheels roughly
X	DON'T	Use non-reinforced cutting-off wheels on portable machines
X	DON'T	Store wheels in a damp atmosphere or in extreme temperatures
X	DON'T	Mount a damaged wheel
×	DON'T	Tighten the mounting nut or locking flange excessively. To do so can distort the flanges
X	DON'T	Force a wheel onto a machine spindle
×	DON'T	Use mounting flanges which are incorrect, damaged, dirty or burred
×	DON'T	Use blotters with depressed centre wheels less than or equal to 406mm (EN 12413)
×	DON'T	Use a machine which is not in good mechanical condition
X	DON'T	Use a machine without a wheel guard
X	DON'T	Use wheels without proper ventilation or dust protection equipment
X	DON'T	Apply side pressure to cutting-off wheels. You should not bend the wheel
X	DON'T	Stop the wheel by applying pressure to the periphery or face. Always switch the machine off & allow the wheel to stop revolving
X	DON'T	Allow the wheel to be trapped or pinched in the cut
×	DON'T	Apply excessive pressure onto the wheel so that the driving motor slows down
X	DON'T	Grind on the side of cutting-off wheels or depressed centre wheels below 4,0mm thickness
×	DON'T	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	DON'T	Grind with a depressed centre grinding wheel at an angle below 30 degrees to the workpiece
×	DON'T	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 allovs

#### **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	PARTICLE SIZE IN		INIUM OXIDE, GA ARBIDE, ZIRCONI		EM	GLASS PAPER	
INCHES	MICRON	GRADING CAMI	SYSTEMS FEPA	COMP. GRIT SYMBOL	POLISHING PAPER	CLOTH	GLASS FAFER
,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	-	-	-	-	-	-

# 414 COATED ABRASIVES

ABRASIVE GRAIN SIZE (CONTINUED)								
PARTICLE SIZE IN	PARTICLE SIZE IN		INIUM OXIDE, GA ARBIDE, ZIRCONI		EM	GLASS PAPER		
INCHES	MICRON	GRADING CAMI	SYSTEMS FEPA	COMP. GRIT SYMBOL	POLISHING PAPER	CLOTH	OLASS FAI LIK	
,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	-	-	-	11/2	
,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	-	-	-	21/2	
,01699	428,0	40	-	-11/2	-	-	-	
,02044	524,0	-	P36	-	-	-	36	
,02087	535,0	36	-	2	-	Extra coarse	-	
,02426	622,2	-	P30	-	-	-	-	
,02488	638,0	30	-	21/2	-	-	-	
,02789	715,0	24	-	3	-	-	-	
,02886	740,0	-	P24	-	-	-	-	
,03530	905,0	20	-	31/2	-	-	-	
,03838	984,0	-	P20	-	-	-	-	
,05148	1320,0	16	-	4	-	-	-	
,05164	1324,0	-	P16	-	-	-	-	
,06880	1764,0	-	P12	-	-	-	-	
,07184	1842,0	12	-	41/2	-	-	-	





# **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.

# **COATED ABRASIVES**

#### **CONTACT WHEELS**

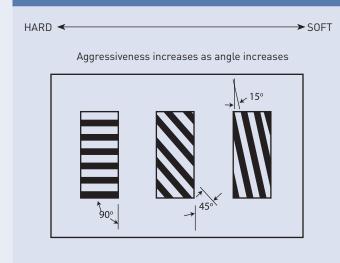
Many machines use contact wheels as a backing for belts. Contact wheels are generally covered with rubber, polyurethane, steel, rubber foam, felt, or compressed canvas, and are classified from soft to hard, with or without serrations. Using a different type of contact wheel has a direct effect on the 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

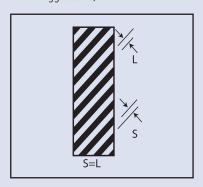
The design of the contact wheel will also have an effect on the contact area, which in turn affects grinding pressure.

- 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**



Contact surface decreases as lands decrease giving a more aggressive, harder wheel



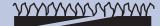
#### **JOINT TYPES**

Belts are made with a standard joint design best adapted to the product and its main application:



Butt joint with tape

NORTON



Overlap joint with no topskive



Overlap joint with extra topskive



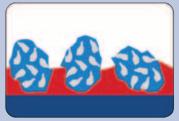
## NORaX® AN INNOVATIVE TECHNOLOGY

 $NORaX^{(0)}$  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.®





# **SURFACE FINISH & GRINDING EFFICIENCY VARIABLES**

#### **SURFACE FINISH VARIABLES**

Changes in any one of many factors can affect the surface finish generated by a product. The purpose of this chart is to show the effect on surface finish by changes in single factors of product specifications. Arrows have been used to signify the trend direction. The length of the arrows have no significance as the effect of each variable factor will not be the same. The chart is meant to be general in nature and to show direction or trend.

	VARIABLE FACTOR	ROUGH HIGHER RA REAI	DING			SMOOTH SURFACE LOWER RA READING
1.	Grit Size	Coarse				Fine
2.	C/A Product Condition	New				Used
3.	Adhesive Bond	Resin		Resin/Glue		Glue
4.	Coating Method	Open-Coated				Close-Coated
5.	Product Flex	Single Linear      ←				Double Triple
6.	Contact Wheel Configuration	Serrated <				Smooth
7.	Composition	Wider Groove Width Steel		Rubber		Wider Width Canvas
8.	Diameter	Smaller				Larger
9.	Belt Speed	Slower				Faster
10.	Grinding Aid	Dry -	Water	Oil Solubles	Straight Oils	Grease
11.	Abrasive Mineral Type	Zirconia Alumina	Ceramic	Aluminium Oxide	Silicon Carbide	Emery
12.	Workpiece Hardness	Softer <				Harder

# **COATED ABRASIVES**

# **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 REAI	DING			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 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.



Protection









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**

D0s							
TUNGST	TUNGSTEN CARBIDE BURRS						
1	DO Always operate the burr within the recommended speed range						
1	DO Select the appropriate shape, diameter & cut style for the application						
1	DO Ensure the appropriate grinder is used & that it is regularly maintained						
1	DO Fix the maximum length of the burr in the collet (recommended max 10mm overhang)						
1	DO Check that the burr is running true in the grinder before use						
1	DO Securely fix workpiece & hold the grinder firmly						
1	DO Use a smooth cutting action with constant movement in both directions. Use light pressure, letting the burr do the work						
1	DO For best finish, always end on a reverse stroke						

DON'	Ts							
TUNGST	TUNGSTEN CARBIDE BURRS							
X	DON'T	Run burr above the Maximum Operating Speed						
X	DON'T	Run burr too slowly (refer to recommended speed guide)						
X	DON'T	Allow burr to be exposed to excessive mechanical or thermal shock						
X	DON'T	Sink the burr to more than one-third of its periphery						
X	DON'T	Jam the burr into grooves, crevices & cavities						
X	DON'T	Allow burr to become too hot, causing braze to weaken (applies to burrs where head diameter is greater than shank diameter)						
X	DON'T	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	
А	37C	SGB	12	30	80	Е	1	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	Н	L	Т			VTECH
40A				60			М				
57A				70			Ν				
86A							0				
IPA				60				EH		17	VTX
								XH		20	
		ES5		60	80		J	L			VX
							K				

# **BONDED ABRASIVES**

ABRASIVE TYPES					
ABRASIVE TYPE	DESCRIPTION				
А	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.				
SGB	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	SNAGGING WHEELS & CUPS					
B & B3	Foundry 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					
CUTTING-C	OFF WHEELS					
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					
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					
B65	Traditional bond gives good performance & long wheel life in dry cutting conditions					

## **WHEEL GRADES**

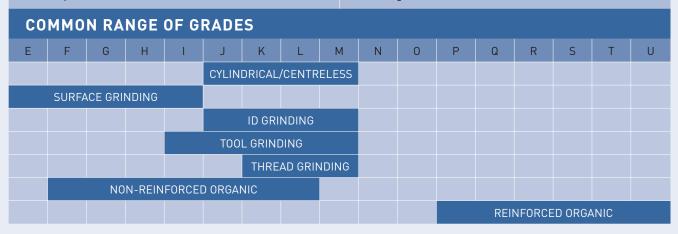
The grade indicates the relative holding power of the bond, which holds abrasive grains in a wheel. This is represented in the specification by letters running through the alphabet from hardest to softest. The following rules should be followed with regard to grade:

#### **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



# **BONDED ABRASIVES**

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 KE Highly recom		SURFACE FINISH & GRIT SIZE							
SURFACE	FINISH		GRAIN SIZE						
μ in CLA	μ m Ra	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
KADIUS	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.

# **BONDED ABRASIVES**

#### 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	

<sup>\*</sup>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:

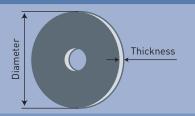
#### Wheel diameter (mm) x Wheel thickness (mm)

# Diameter x Thickness (mm) Carat (mm) Corat 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.

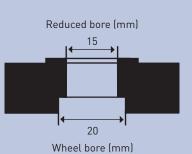
# **BONDED ABRASIVES**

# **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	076607 <b>04766</b>
32	25	076607 <b>17540</b>
32	20	076607 <b>17538</b>
31,75	15,88	076607 <b>04757</b>
31,75	12,7	076607 <b>04755</b>
20	16	076607 <b>17530</b>
20	15	076607 <b>17529</b>
20	13	076607 <b>17527</b>
20	12	076607 <b>17525</b>
20	10	076607 <b>17524</b>
16	6	005100 <b>08919</b>



## 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.

# **BONDED ABRASIVES**

#### **MOUNTED POINTS & WHEELS**

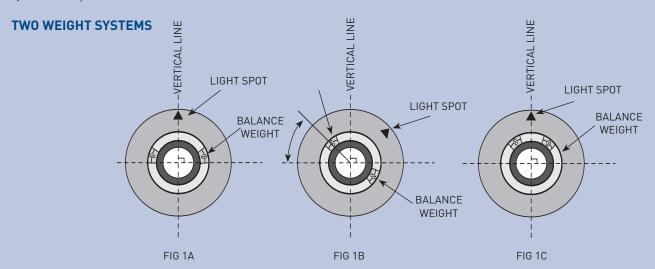
The spindle dimensions of the mounted point must be suitable for the collet being used, and the spindle overhang corresponding to the machine speed should be observed.

#### **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:



- 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

Cause Machine vibration

**Solution** Check for wear in machine bearings

#### **REGULAR SPACED CHATTER MARKS**

After a period of time

Cause Wheel too hard

**Solution** Use softer grade of wheel

#### **CHEQUERED PATTERN**

**Cause** Wheel out of balance

Solution Balance wheel

#### **CHATTER MARKS**

Cause Wheel out of truth

Solution Re-dress wheel

#### **IRREGULAR CHATTER MARKS**

CauseWheel mounting insecureSolutionTighten wheel mountingCauseWorkpiece centres loose

**Solution** Adjust centres

#### **SPIRAL MARKS**

Cause Dressing techniques

**Solution** Check diamond is sharp & secure

Cause Dressing techniques

Solution Check dress is parallel

#### **FINISH TOO COARSE**

Cause Grit size too coarse

**Solution** Use fine, slow traverse dress

**Cause** Wheel too soft

**Solution** Decrease workspeed. Use harder grade wheel

Cause Metal pick-up on wheel

Solution Dress more frequently. Use more open, softer grade wheel

## **BONDED ABRASIVES**

## 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.







Wear Gloves



Eye Protection



Protection



Read Instructions



Damaged Wheel

– Do not use



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#### 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.

## **BONDED ABRASIVES**

#### **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**

DES	IGNA	TION	l OF	GRIT	SIZE	S		
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						

## **SUPER ABRASIVES**

## CONCENTRATION

The concentration is defined by a standard and indicates the weight of abrasive (in carats) contained in  $1 \text{cm}^3$  of abrasive strip -1 carat = 0.2 grams.

CONCEN	TRATION*	NUMBER OF CARATS/cm <sup>3</sup>	ABRASIVE WEIGHT PER cm <sup>3</sup>	
DIAMOND ABRASIVE	CBN ABRASIVE*	NUMBER OF CARAIS/CIII	ADRASIVE WEIGHT PER CITI	
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>	

<sup>\*</sup> Other concentrations available upon request

#### **SELECTION OF CONCENTRATION**

The choice of concentration depends on the machining parameters:

НІСН	CONCENTRATION			MEDIUM OR LOW CONC	ENTRATION
Roughing operations			Finishing operation		
Po	werful 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	Т		O	Ω/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 retruing

#### 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
	Wheel loaded or glazed	Dress wheel with a dressing stick
Burning	Excessive feed rate	Reduce infeed of wheel or workpiece
(excessive heat)	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
Poor finish	Excessive feed rate	Reduce infeed of wheel or workpiece
Chattan	Wheel out of truth	True wheel; ensure it is not slipping on mount
Chatter	Wheel too hard	Check specification





WET GRINDING	;	
Problem	Possible causes	Suggested correction
	Wheel glazed or loaded	Re-dress wheel
Burning	Poor coolant placement	Apply coolant directly to wheel/workpiece interface
(excessive heat)	Excessive material removal rate	Reduce downfeed &/or crossfeed
	Wheel speed too high	Slower wheel speed
	Excessive dressing	Use lighter dressing pressure Stop dressing as soon as wheel starts to consume stick rapidly
Poor finish	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
Chatter	Wheel too hard	Check specification
	Glazed by truing	Dress lightly until wheel opens up
Wheel will not cut	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)
	Incorrect coolant flow	Apply coolant to flood wheel/work surface
Short wheel life	Low wheel speed	Increase wheel speed (observe maximum operating speed)
Short wheet the	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:  $\blacksquare$  Hand held blades  $\emptyset < 230$ mm: 80m/s  $\blacksquare$  Hand held blades  $\emptyset > 230$ mm: 100m/s  $\blacksquare$  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



r Read ction Instructions



Read No



Not for Side Grinding



Dry Cutting



Wet Cutting



## **TROUBLESHOOTING**

Cause The segments are too hard for the material  Cause The segments have become blunt  Solution Sharpen the segments by cutting an abrasive material (e.g. sandstone)  Cause Insufficient machine power Solution Check the voltage, machine power & filters  EXCESSIVE WEAR  Cause The segment is too soft for the material (e.g. if a blade for hard material is used to cut abrasive material)  Solution Check if the diamond blade is suitable for the material  CRACKING OF STEEL CENTRE  Cause The segments are too hard for the material  Solution Check if the blade is suitable for the material  Cause Excessive cutting pressure, overheating, material slippage, twisting or jamming in the cut  Solution Check if 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  Cause The segments are too hard for the material. This results in the diamond blade bouncing in the cut resulting in cracking segments  Solution Check if the diamond blade is suitable for the material. This results in the diamond blade bouncing in the cut resulting in cracking segments  Solution Check if the diamond blade is suitable for the material. This is easily recognisable from the blue colouring where the segments & the steel core are welded together  Solution Allow the diamond blade to cool regularly by rotating the blade away from the workpiece for a few seconds  Cause The segments are too hard for the material. Alternatively use less cutting pressure & let the blade do the work  LINDEPOLITIONS	DIAMOND BLADE DOES NO	т сит
Cause The segments have become blunt  Solution Sharpen the segments by cutting an abrasive material (e.g. sandstone)  Cause Insufficient machine power  Solution Check the voltage, machine power & filters  EXCESSIVE WEAR  Cause The segment is too soft for the material (e.g. if a blade for hard material is used to cut abrasive material)  Solution Check if the diamond blade is suitable for the material  CRACKING OF STEEL CENTRE  Cause The segments are too hard for the material  Solution Check if the blade is suitable for the material  Solution Check if the blade is suitable for the material  Solution Check if the blade is suitable for the material slippage, twisting or jamming in the cut  Solution 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  Cause The segments are too hard for the material. This results in the diamond blade bouncing in the cut resulting in cracking segments  Solution Check if the diamond blade is suitable for the material  SCORCHING OF SEGMENTS  Cause Excessive cutting pressure causing overheating. This is easily recognisable from the blue colouring where the segments & the steel core are welded together  Solution Allow the diamond blade to cool regularly by rotating the blade away from the workpiece for a few seconds  Cause The segments are too hard for the material. Alternatively use less cutting pressure & lett the blade do the work	Cause	The segments are too hard for the material
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for a few seconds  Cause  The segments are too hard for the material  Check if the diamond blade is suitable for the material. Alternatively use less cutting pressure & let the blade do the work	Cause	
Solution  Check if the diamond blade is suitable for the material. Alternatively use less cutting pressure & let the blade do the work	Solution	
& let the blade do the work	Cause	The segments are too hard for the material
INDEDCLITTING	Solution	, , , , , , , , , , , , , , , , , , ,
UNDERCOTTING	UNDERCUTTING	
Cause  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	Cause	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
Solution Use a diamond blade suitable for the specific material	Solution	Use a diamond blade suitable for the specific material

## **SAFETY ADVICE**

SAFE	TY DOs
For your	safety you should ensure that you are fully aware of how to safely use diamond blades
1	DO Read the safety instructions provided by the abrasives & equipment supplier
1	DO Store abrasives in dry, frost-free conditions avoiding wide variations in temperature
1	DO Ensure that the product is suitable for its purpose
1	DO Handle, store & transport products with care
1	DO Disconnect the power to the machine before fitting the product
1	DO Examine all products before mounting & periodically during blade use for possible defects or damage (core flatness, fatigue cracks, undercutting, arbor hole damage)
1	DO Check that correct mounting devices are used & that they are clean, undistorted and free from burrs
1	DO Ensure that work rests are properly adjusted & secure
1	DO Always use a correctly designed & adjusted guard (on the blade and belts)
1	DO Ensure that the workpiece is secure
/	DO Wear appropriate personal protective equipment at all times
1	<b>DO</b> Avoid clogging & uneven wear to ensure that the product is working efficiently
1	DO Ensure accordance between product direction arrow / machine rotation
1	DO Ensure that all machines using abrasives meet the requirements of the current European machinery directives-CE
<b>√</b>	DO Be aware of the hazards likely during the use of abrasives & observe the recommended precautions to be taken:  - Bodily contact with the abrasive product at operating speed  - Injury resulting from product breakage during use  - Grinding debris, sparks, fumes & dust generated by the grinding process  - Noise



- Vibration



SAF	ETY D	ON'Ts
For you	r safety yo	u should ensure that you are fully aware of how to safely use diamond blades
X	DON'T	Allow untrained people to use abrasives
X	DON'T	Use a product that is damaged or one which has been dropped
X	DON'T	Use a product if it cannot be properly identified
X	DON'T	Use a machine that is not in good working order or one with defective parts
X	DON'T	Force the abrasive onto the mounting device or modify the size of the mounting hole
X	DON'T	Exceed the maximum operating speed marked on the product
X	DON'T	Apply shock or excessive force to the product or let it overheat
X	DON'T	Use mounting flanges which are not clean & flat
X	DON'T	Tighten the mounting device excessively
X	DON'T	Start the machine until the guard is in place & fastened securely
X	DON'T	Continue to use a product if vibration occurs. True or replace it
X	DON'T	Grind on the part of the product which is not designed for the operation
X	DON'T	Start the machine with the workpiece in contact with the abrasive product
X	DON'T	Grind material for which the product is not designed
X	DON'T	Stop the abrasive by applying pressure to its surface, let it stop naturally
X	DON'T	Exceed permissible rotation speeds: refer to values engraved on product
X	DON'T	Use blades with missing segments or core cracks
X	DON'T	Use dry products marked for wet use
X	DON'T	Wear loose clothing, ties & jewellery

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