

NORTON

SAINT-GOBAIN

Transforming
surfaces
...and beyond



SURFACE SOLUTIONS

ROBOTIC APPLICATIONS



READY TO AUTOMATE YOUR GRINDING OPERATIONS

Norton has provided the most powerful, precise and user-friendly abrasives together with our expert knowledge for more than 135 years. In the age of industrial automation, we are ahead of market expectations, delivering a complete range of abrasive solutions ideally suited for robotic applications in many industries.

DIFFERENTIATION IN THE RANGE

We have one of the widest selections of abrasive products to meet every customer requirement. The range is classified into four quality-tiers (good/better/best/Innovation) to help you choose the right product for your specific application.

INNOVATION

Norton's innovative abrasive solutions offer outstanding productivity and versatility.

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GOOD

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BETTER

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BEST

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CUTTING AND DEGATING

Cutting applications are crucial in preparing parts for subsequent production phases and in defining design parameters. Norton provides a variety of cutting discs engineered for automated material removal applications. Our cutting-edge tools enable rapid and efficient cutting through the toughest and most complex materials, ensuring precision and consistent outcomes.

FOUNDRY X DIAMOND AND CBN CUTTING WHEELS **+++++**



- Exceptional productivity and cost efficiency
- Fixed wheel dimensions facilitate easier and faster programming, making it ideal for robotic applications
- Single-layer grinding wheels can be re-plated multiple times, extending wheel life and ensuring long-term cost efficiency if the steel core remains undamaged
- Suitable for grinding all steel types, cast iron, composites, fibreglass, and stones, depending on the specifications

TOROS MDCO WHEELS **+++++**

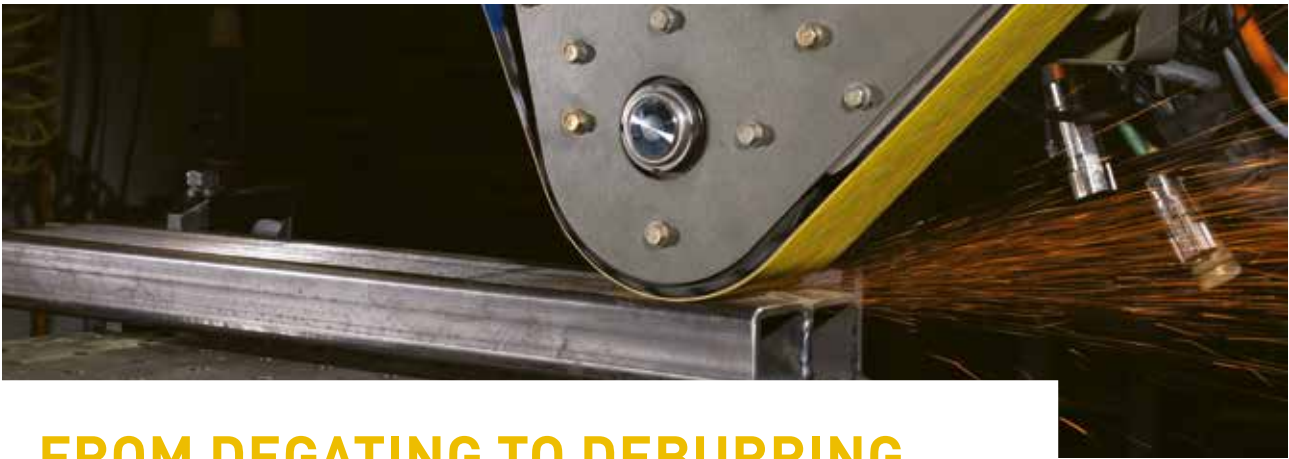


- Reinforced cutting wheels contain fiberglass for increased mechanical resistance during use
- Fiberglass reinforcements enhance lateral stress capacity, improving resistance to breakage
- Suitable for use in both dry and wet conditions, depending on the type of bond
- Min Thickness > = 3,5mm
- Designed for cutting ferrous and non-ferrous metals, depending on specifications

QUANTUM3 ULTRA THIN CUTTING DISCS **+++++**



- Versatile and very light discs made from self-sharpening ceramic grain
- Alternative to superabrasive products
- Suitable for all steels and cast iron



FROM DEGATING TO DEBURRING

In industrial manufacturing, precision, efficiency, and durability are vital. Norton's cutting-edge abrasives ensure the highest removal rates and superior finishes, seamlessly integrating with robotic systems. Whether dealing with large castings or intricate geometries, our solutions are optimized to deliver the best grinding performance.

NEW NORTON RAZORSTAR®

INNOVATION



NARROW BELTS

- A breakthrough innovation of razor-sharp ceramic grain with a tough microstructure cuts faster and removes more material. This is combined with the highest percentage of grains applied to the backing in an upright position for razor-sharp cutting




FIBRE DISC

- Unique, patented grain geometry means new, sharp cutting edges are exposed as the grain fractures during grinding providing consistent cut rate and unparalleled belt life



QUICK CHANGE DISCS




- The sharp grain and top-size layer combine to significantly reduce heat generation, resulting in less thermal damage of the workpiece
- When used with lighter pressure, RazorStar® quick change discs produce a surface finish comparable to a 60 grit. They are suitable for Cobots with low payloads, optimizing efficiency in collaborative robot applications


NEW

UNBEATABLE GRINDING PERFORMANCE

NORTON RAZORSTAR® FEATURING ENGINEERED SHAPED CERAMIC GRAIN

SHARPER THAN EVER

- HIGHER CUT RATE** 
- LONGER LIFE** 
- COOLER CUT** 

SNAKE FLEXIBLE BELTS **+++++**



- Flexible belts designed for edging and cleaning non-standard glass shapes
- High-performance superabrasive diamonds and robust and flexible polycotton backing provide long life and high stock removal rates
- Suitable for applications where performance and versatility are key
- Ideal for concrete, stones, tiles, glass, composites and hard coatings

SNAKE SELF-GRIP DISCS **+++++**



- Designed for edging and cleaning non-standard glass shapes
- High performance superabrasive diamonds and strong, flexible polycotton backing
- Provides long life and high stock removal rates
- Ideal for concrete, stones, tiles, glass, composites and hard coatings

FOUNDRY X DIAMOND AND CBN GRINDING PINS **+++++**



- High-precision abrasive tools designed for finishing, deburring, sharpening and precision grinding
- Exceptional durability and cutting performance
- FoundryX technology provides consistent quality and high efficiency
- Perfect for foundry operations
- Available in various shapes and sizes to meet diverse operational needs
- Suitable for all steels, cast iron, composites, fiberglass, and stones, depending on the specification

X-TREM CUT CARBIDE BURRS **+++++**



- State-of-the-art geometries and a stronger tooth formulation for faster stock removal and longer life
- High-quality range featuring a variety of teeth and cutting shapes for optimal adaptation to the characteristics of materials like stainless steel, steel, carbon steel, and nickel alloys

NORTON CLIPPER EXTREME CUP GRINDERS **+++++**



- i-HDTM segments ensure the best finish, high material removal, and long life due to uniform diamond density in each segment
- Suitable for grinding building materials, bricks, concrete, natural stone, granite, porphyry, and abrasive materials

FOUNDRY X DIAMOND AND CBN GRINDING WHEELS



- Designed to overcome grinding heat and loading issues
- Improved productivity allows up to 40% more parts per wheel and 30% longer life compared to competitors
- Suitable for all steel types, cast iron, composites, fiberglass, and stones, depending on specifications

LARGE SNAGGING WHEELS ZF7A



- A unique design of abrasive blends provides superior durability and high metal removal rates in heavy-duty grinding applications
- Ideal for use on all types of steel and non-ferrous metals

QUANTUM3 GRINDING WHEELS



- Self-sharpening ceramic grain technology for high material removal and reduced grinding time
- Longer wheel life resulting in less downtime and waste
- The perfect blend of precision-shaped ceramic grain and our toughest bond system allows the grinding wheel to glide effortlessly through the workpiece without grabbing, enabling controlled, fast, and smooth metal removal
- Suitable for all types of steel and cast iron



SANDING

When selecting abrasives for robotic sanding applications, it's crucial to consider factors such as abrasive grit size, material compatibility, durability, and cost-effectiveness to achieve optimal performance and finish quality. Norton provides a wide array of sanding solutions designed specifically for robotic applications. Our offerings address diverse needs, from high material removal rates on extensive surface areas like wind turbine blades to precise requirements in Automotive OEM applications.

MESHPOWER™ CERAMIC M920 **+++++**



- Mesh backing enables excellent dust extraction for a cleaner working environment and less clean-up time
- Ceramic grain provides the ultimate material removal, best productivity, longest life and finest finish
- No-fil® technology prevents clogging for longer product life
- Can be used wet or dry on any type of material, before and after painting

MULTI-AIR® BLAZE PAPER DISCS A995 **+++++**



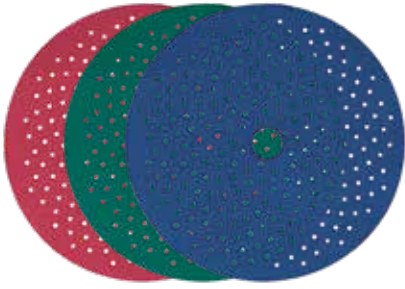
- Ultra-premium ceramic aluminium oxide grain boosts performance with extremely sharp edges and removes over 30% more material with considerably less dust
- An all-new exclusive backing design provides extraordinary strength with tear resistance well beyond any flexible paper in the market
- Unique Norton Multi-Air® hole configuration provides a consistent cut throughout the product's life and maximum dust extraction for a cleaner work environment and less potential for contamination in the shop
- Norton No-Fil® water-based stearate coating ensures you get the superior finish you need without the rework and endless consumption of discs through changeovers
- Ideal for high material removal operations on any type of material, both before and after painting

MULTI-AIR® PLUS PAPER DISCS A975 **+++++**



- P-graded, seeded-gel ceramic alumina abrasive and hole design maximises dust extraction for a clean work environment and less contamination and delivers a cool, fast, consistent cut rate and longer life than any paper disc
- Unique fiber reinforced, flexible C-weight latex saturated backing delivers 50% - 60% improvement in tear strength while retaining flexibility
- Water-based, non-pigmented stearate No-Fil® coating and open coat provide maximum load resistance with no colour transfer to work
- For use on primed and painted surfaces, marine gel coats, non-ferrous metals, composites, and ceramic coatings, whether for dry or wet sanding

CYCLONIC® MULTI-AIR DISCS A975 **+++++**



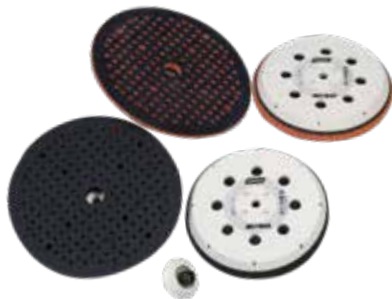
- Made with super sharp ceramic A975 grain and No-Fil® technology for the ultimate cutting performance and a longer product life than conventional grain types. Ceramic grains also cut cooler and wear more evenly for a consistent finish
- For finishing applications, finer-grade discs have a thin foam backing which adapts to surface contours for a smooth, consistent finish. Use with a Multi-Air back-up pad for the best performance
- Ultra-precise laser cutting technology produces a flatter disc, increasing the abrasive surface area and optimising dust extraction
- Self-grip backing and easy-to-align hole configuration reduce downtime wasted between disc changes
- For any material before and after painting

PRIME SANDING BRUSHES **+++++**



- Featuring the Diamond Snake pattern for exceptional material removal rates, extended product life, and superior surface finishes
- Customized to seamlessly integrate into large-scale sanding operations (e.g. wind turbine blades, trains, buses), enhancing efficiency and minimizing downtime
- Ensure optimal performance in robotic operations with reliable consistency

MULTI-AIR® BACK-UP PADS



- The Multi-Air back-up pad draws dust into a collection chamber for optimal airflow and powerful dust extraction
- The innovative design delivers high performance and a smoother, unblemished work surface. This is alongside the additional benefit of a clean working environment



BLENDING

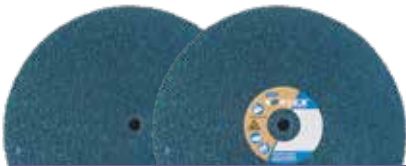
Surface blending and refining are vital for preparing the workpiece for painting, powder coating, or other finishing operations. Norton offers a comprehensive range of products specifically designed for robotic applications, ensuring uniform finishing on stainless steel, mild steel, and aluminium.

VORTEX® RAPID PREP ENGINEERED A/O **+++++**



- Non-woven belts featuring patented Vortex grain and proprietary Clean Bond™ technology ensure superior performance
- They leave perfectly finished, smear-free surfaces, reducing rework and leading to cost savings
- Highly flexible and easy to handle, these belts can be installed on the backstand within seconds
- A wide selection of sizes and grades is available
- Suitable for both ferrous and non-ferrous materials

VORTEX® RAPID BLEND UNITISED WHEELS **+++++**



- High-performance, engineered aluminium oxide grain and improved resin bond system provide aggressive, fast, stock removal, reduced cycle times, and excellent part quality
- Suitable for both ferrous and non-ferrous materials, plastic and rubber

BEARTEX FLANGE MOUNTED FLAP WHEELS **+++**



- Ideal for use on contoured surfaces and parts with awkward geometry
- Gentle cushioning action achieves a consistent and uniform finish with no risk of gouging
- Suitable for a wide range of applications including corrosion removal, cleaning and surface finishing on both ferrous and non-ferrous materials, plastic and rubber

BEARTEX NON-WOVEN FLAP WHEELS **+++**



- Ideal for removal of oxidation, paint, corrosion, generating grain finishes and finishing large and awkward components.
- Less aggressive than conventional coated abrasive flap wheels
- For ferrous and non-ferrous materials, plastic and rubber



FINISHING AND POLISHING

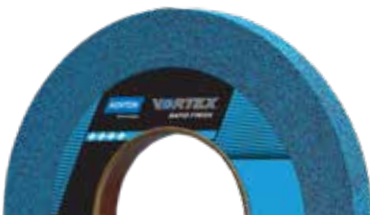
Automating surface finishing and polishing with robotic systems empowers manufacturers to achieve superior surface quality and consistent standards. Norton's high-performance solutions, such as Vortex convolute wheels and engineered NORaX® abrasive belts, deliver exceptional results and uniform finishes across diverse applications. Tailored to meet specific material and finishing requirements, our products optimize robotic surface operations, ensuring unmatched performance and reliability.

NORaX® ABRASIVE BELTS **+++++**



- Fine 3D pyramid pattern wears away consistently, exposing sharp abrasive grains to prolong cutting performance, lasting 2-5 times longer than conventional polishing belts
- High, consistent cut rate throughout the life of the belt compared to previous generations
- Fast removal of scratches and part defects, eliminating steps from your polishing process
- Engineered, high-performance micron-graded aluminium oxide abrasive prevents wild scratches and produces a more repeatable, consistent finish from the first to the last part
- Very flexible J-weight backing conforms to intricate part contours

VORTEX RAPID FINISH CONVOLUTE **+++++**



- Fast-cutting stock removal with excellent form holding
- Proprietary Vortex engineered grain and bond ensure a uniform finish throughout the entire wheel life
- Ideal for deburring, blending and finishing automotive gears and turbine engine components
- Suitable for both ferrous and non-ferrous materials, plastic and rubber

FAB BUFFING WHEELS



- An innovative buffing solution that can achieve superior results and long life with minimal buffing compound required
- Both sides of the cloth of the FAB buffing wheels are uniformly coated with abrasive grains. This means better abrasive coverage of the workpiece and a more consistent finish
- Designed to be waterproof and tear resistant, FAB wheels last 35% longer than traditional cotton buffs, allowing for more parts per buff and fewer buff changes

CLOTH POLISHING MOPS



- Ideal for hard-to-reach areas and intricately shaped components
 - Ideal for achieving a mirror finish on any type of metal
-

MULTIPLE STITCHED CLOTH POLISHING MOPS



- Extra solid construction for polishing flat surfaces
 - Ideal for achieving a mirror finish on any type of metal
-

INDUSTRIAL POLISHING BLOCK



- Solid polishing compounds to prevent material buildup
 - Available in different colours for various metals
 - Supports cool cutting in both manual and robotic applications
-



OEM SPOT REPAIR

Removing imperfections in the final paint layer is crucial to achieving a consistent, high-gloss finish and meeting stringent surface quality requirements. In partnership with Farécla, Norton offers a complete spot repair system for robotic paint sanding and polishing applications.

NORaX® MICROFINISHING DISCS U458 **+++++**



- Provides sharp, consistent cutting action throughout the whole product life
- Removes surface imperfections from automotive paints without changing the surface topography
- Delivers high gloss and uniform finish
- For metal body parts, plastic parts and carbon frames

FARÉCLA PROFILE OEM SYSTEM

Farécla



- New Farécla Engineered Abrasive Technology E.A.T. for better initial cutting power
- No heat generation and hazes
- Quicker completion and reduced cycle time with matching compound and pads
- High gloss finish



TRANSFORM YOUR SANDING OPERATIONS WITH ISYBOT



ISYBOT specialises in designing and manufacturing industrial collaborative robots (CoBots) that safely work alongside human operators.

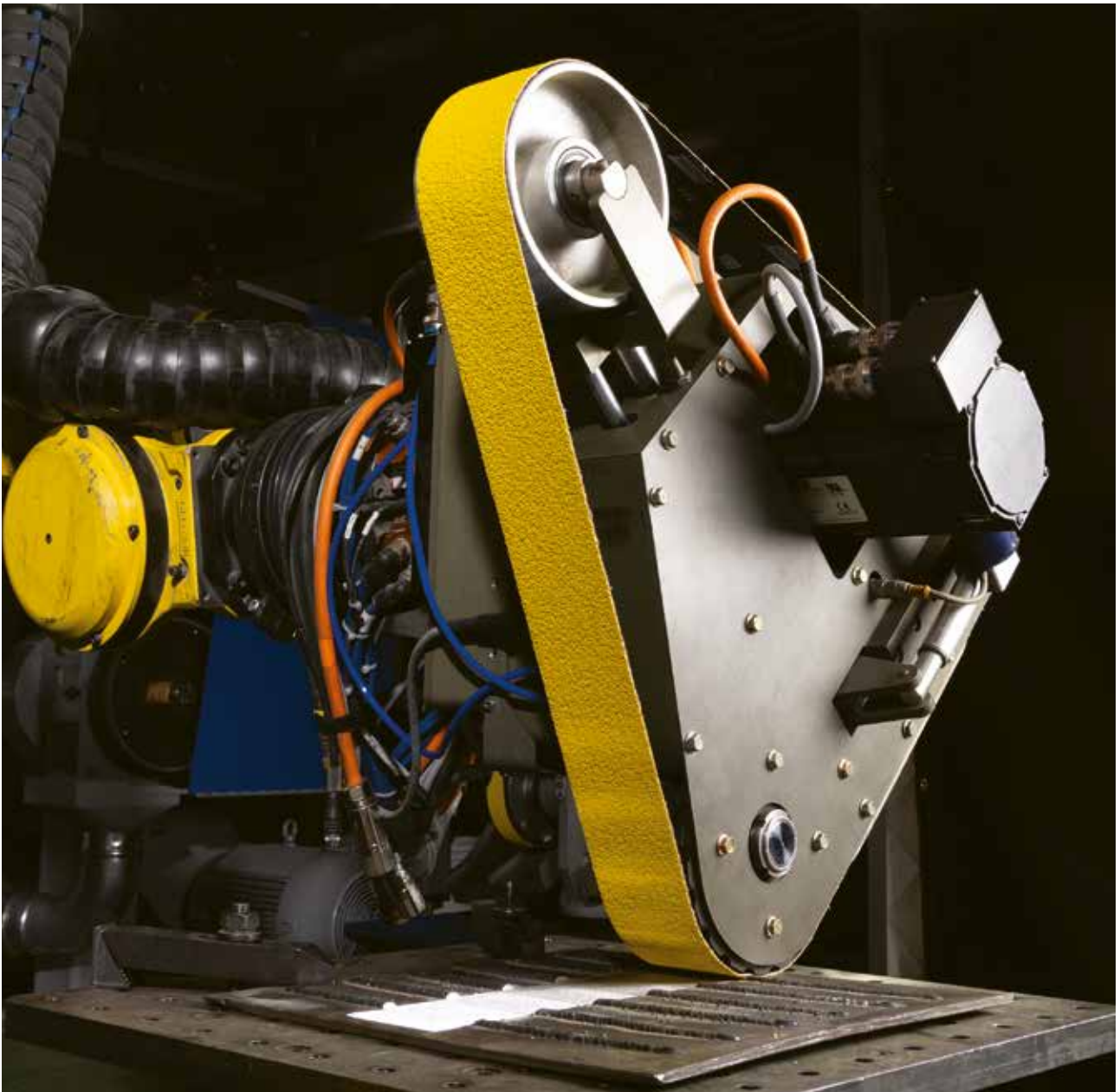
ISYBOT's innovative solutions effectively address the challenges of worker-machine collaboration by:

- **Boosting Productivity:** Increase efficiency in non-automated and unpredictable tasks, freeing skilled workers for more complex duties.
- **Streamlining Workflows:** Assign strenuous tasks to CoBots, ensuring smooth production flow and reducing the risk of musculoskeletal disorders (MSDs).
- **Enhancing Job Appeal:** Empower workers to act as CoBot pilots, restoring the appeal of manual tasks and improving job satisfaction.



WHY CHOOSE ISYBOT?

- **High Transparency:** The mechanics allow the robot to move effortlessly without disrupting the operator's intended trajectory.
- **User-Friendly Operation:** Operators can intuitively program the CoBot using just two push buttons, with no prior robotics training required.
- **Agility:** ISYBOT provides continuous control during sanding without needing prior knowledge of the workpiece shape. It adapts to any workpiece and can be easily moved between stations.



NORTON TECHNICAL SUPPORT WITH YOU IN MIND

Whether you already have a robotic cell or are just starting to think about automating your grinding processes, contact us and benefit from our advantages.

EXPERTISE KNOWLEDGE

Norton application engineers provide comprehensive service support and are committed to the development of your robotic grinding process.

CONTACT NETWORK

Let us connect you with system integrators, end-of-arm tools producers and robot manufacturers.

BEST MARKET SOLUTIONS

Discover our complete range of robot-ready solutions.

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