



Transforming
surfaces
...and beyond

SOLUTIONS FOR EMERGING SECTORS





SUPER ABRASIVES FOR ELECTRONICS INDUSTRY

Did you know that Norton Winter diamond grinding wheels are used for cutting, grinding and polishing of semi-conductor materials?

Industrial customers apply them by achieving excellent surfaces with equally minimized subsurface damages to the material. Our comprehensive product portfolio offers productive solutions optimized for all relevant applications along the value chain.



BACKGRINDING WHEELS

The continuous growing needs for higher yields, shorter cycle times and lower abrasive cost necessitate optimization of the grinding process for manufacturers of thinner and larger diameter semiconductor wafers. Norton Winter PRISMA Backgrinding Wheels are designed for processing wire - or laser-sawn wafers and handle even the most difficult tasks and enable fast and precise material removal.

Features & Benefits

- Grinds multiple incoming surface finishes (wire sawn, laser sawn, lapped, ground, polished) on wafer and boule
- Offers high stock removal for optimized productivity
- Easily grinds sharp features while maintaining good wheel life
- Lower grinding power for reduced sub-surface damage
- Combines the long life and superior finish of metal and vitrified bonds



FIXED DIAMOND WIRES

Premium Diamond Wire for Slicing, Wafering, Cutting, Cropping and Bricking

Norton Winter patented plated diamond wire allows for superior part quality, high material yield, fast cut rate and long product life. The diamond wire is designed with premium quality diamond, a unique plating structure, and exposed diamond edges for superior performance on hard to cut materials.



Features & Benefits

- Tightly controlled diamond size and concentration for consistent slicing performance
- Uniform wire diameter and even diamond distribution with no diamond clustering
- Features engineered diamond with high diamond exposure ratio
- Allows for accurate part dimensions, including kerf, part shape and TTV (total thickness variation)
- Delivers a superior surface finish with minimal edge chipping

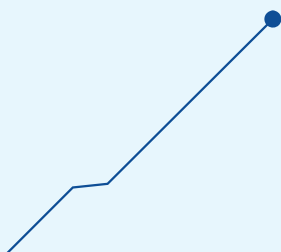
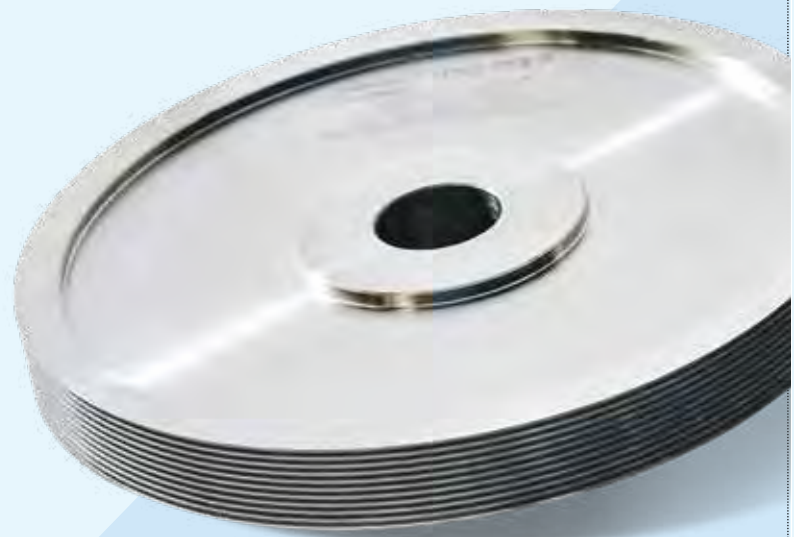
EDGE GRINDING WHEELS

Achieve a Superior Finish

Norton Winter Edge Grinding Wheels are ideally suited for producing high material yield and high throughput when edge grinding hard and brittle materials. With uniform diamond size and distribution throughout the wheel, they provide superior finish with minimal edge chipping.

Features & Benefits

- Consistent product with tightly controlled diamond size and high concentration
- Uniform diamond distribution throughout the abrasive layers
- Engineered diamond exposure ratio
- Offers accurate part dimension including angle, radius, and width
- Superior surface finish with minimal edge chipping and subsurface damage



DICING WHEELS



Norton Winter Dicing wheels are used for slicing, slotting & dicing hard microelectronic materials. Tight dimensional tolerances ensure consistently accurate cuts. Blade thinness minimizes waste & maximizes yield.

Features & Benefits

- Achieves quality cuts within acceptable dimensional limits
- Less wheel wear/ longer life while

SUPER ABRASIVES FOR SOLAR INDUSTRY

SOLAR PENCIL EDGING WHEELS

SUPER•CUT Diamond Pencil Edging Wheels set the worldwide industry standard in glass manufacturing. Produced to the highest quality, they offer long-life performance and superior form holding characteristics. SUPER•CUT maintains its world leadership position in Pencil Edging Wheels due to continuous improvement in bond technology and manufacturing techniques.

Features & Benefits

- Consistent blending and moulding of each wheel to exact process specifications.
- Traceability - Each wheel is serialised so every manufacturing process can be identified.
- Performance tailored to your needs SUPER•CUT wheels provide fast start-up and cutting, chip-free grinding and long life between retrues.



DRESSING STICKS

As the diamond particles are worked on during the grinding operation, they wear and lose their cutting power by flattening off at the top exposed edge, a phenomenon termed as glazing. However, the bond wear may not be at the same rate as the diamond. If the bond wear is slower than the diamond wear, this will reduce the diamond exposure and the grinding capability. Hence a relatively soft abrasive dressing stick, such as aluminium oxide (AL2 O3), is required to grind away the bond and give greater exposure to the diamonds.

NON WOVEN ABRASIVES FOR AEROSPACE INDUSTRY



BEARTEX- HANDPADS

6"x9" NX13, HX13

Beartex hand pads have a fine nylon web structure and are ultra-flexible and easy to hold when used on curved, contoured, or flat surfaces. Designed for durability and versatility, these products are best suited for blending and de-burring, cleaning of auto and aero components, and general fabrication works.

Features & Benefits

- Fast-cutting action
- Smear-free superior Finish
- Extended product life

BEAR PREMIUM UNIFIED WHEELS AND DISCS

4", 6", 8"

Premium Nylon fibre, tough Aluminium oxide grains & unified coating ensure a smear-free surface finish. Typical applications include blending and de-burring, cleaning auto, aero components and general fabrication work.

Features & Benefits

- Fast-cutting action
- Smear-free superior Finish
- Extended product life



RAPID FINISH CONVOLUTE WHEELS

6", 8", 12", 14" & 20" in various densities

Formed by wrapping and bonding web material impregnated with abrasive grain and resin around a center core, Convolute wheels offer a wide range of uses: cleaning, finishing, blending/deburring and finishing of titanium prostheses, aerospace blades, cutlery, golf clubs, computer parts, wood molding, auto components.

Features & Benefits

- Smear-free finish
- Lower dust generation while polishing
- Very good cut rate



RAPID PREP - SCM DISC

2", 3", 5", 7"

Rapid prep products, sometimes referred to as surface conditioning material (SCM) are made with a strong fiber matrix, needled to a reinforced cloth backing, and coated with abrasive grain and resin. Typical applications include refurbishing turbine blades and aero components, polishing automotive parts, uniform and luxury finishing of SS industrial appliances, and cleaning/blending of weld discolorations.

Features & Benefits

- Smear-free finish
- Very good cut-rate



RAPID BLEND - UNITIZED DISC

1", 2", 3" & 6"

Rapid blend unitized products are constructed from sheets of reinforced non-woven fiber impregnated with abrasive grain, then layered and pressed together. Shapes are then cut out of the laminated layers. Typical applications include blending and de-burring of auto, aero components

Features & Benefits

- Smear-free finish
- Lower dust generation while polishing
- Very good cut-rate



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