NORTON
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AEROS

Transforming surfaces ...and beyond

AEROSPACE GRINDING SOLUTIONS

DESIGNED FOR EXCELLENCE

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SETTING A NEW STANDARD IN GRINDING HEAT-SENSITIVE ALLOYS

The new **Norton AEROS** grinding wheel leverages advanced technology to deliver **exceptional precision** and **efficiency** in demanding surface and creep feed grinding applications.

Designed for multi-feature processes, it **reduces setup time** and **enhances productivity** in complex, high-precision environments.

ADVANTAGES

REDUCED CYCLE TIME

The new combination of sharp grains and durable bond properties enables faster material removal, reducing cycle times and lowering operational costs.

IMPROVED PART QUALITY

Due to advanced bond chemistry and an innovative porosity design, Norton AEROS requires less power and lower cutting pressure, minimising heat generation and preserving metal integrity. The fine, well-distributed porosity ensures stable cutting performance, leading to consistently high part quality.

LONGER WHEEL LIFE

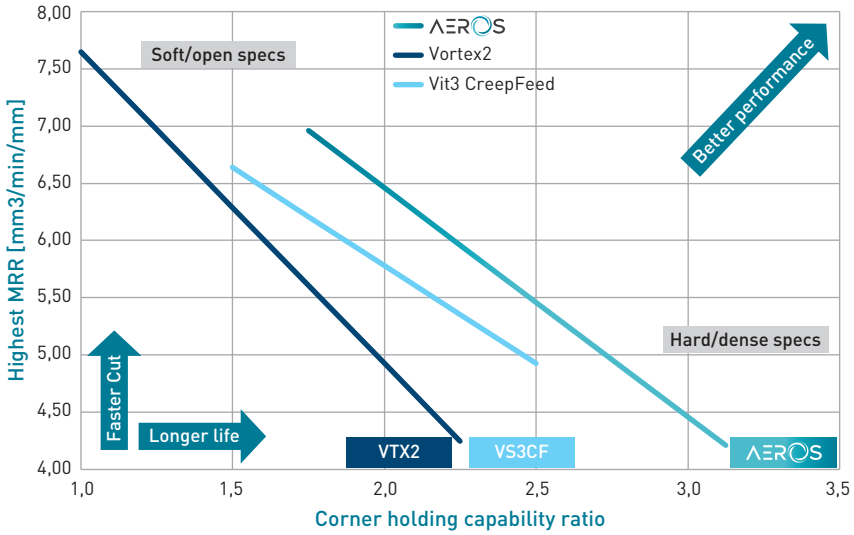
The new bond provides higher grain retention strength, enhancing mechanical stability and reducing the need for frequent dressing. This results in longer wheel life and significant savings on wheel and dresser replacements.

GRINDING TEST BENEFITS:

TEST METHOD:

- Measure the corner radius at the highest Material Removal Rate (MRR) while maintaining complete part integrity.
- Conducted on the Maegerle MFP100.
- Benchmarked against Norton products.

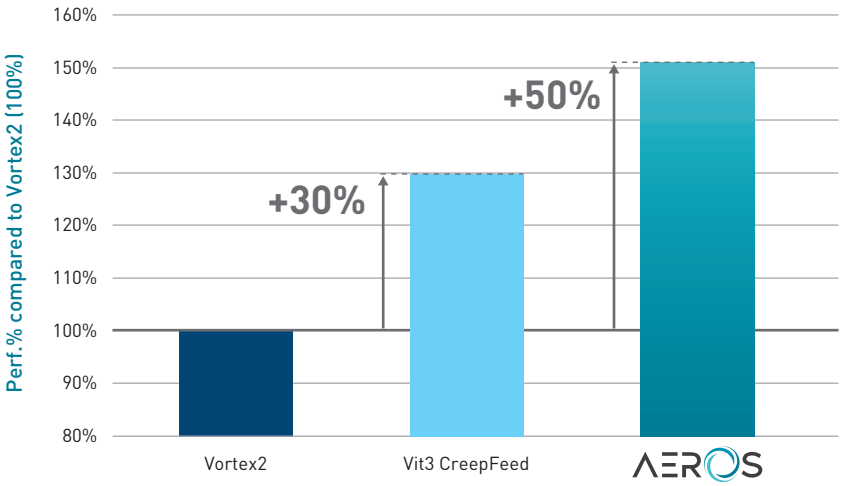
Graph #1 - Corner holding capacity at maximum MRR



COMMENTS

Graph #1 illustrates two possible axes of improvement enabled by AEROS properties: higher material removal and better shape-holding. AEROS outperforms previous Norton generations and expands the working range.

Graph #2 - Relative grinding performance % compared to Vortex2



COMMENTS

Graph #2 provides a combined summary of the relative performance of AEROS compared to existing products. It clearly illustrates the expected process improvements over alternative products.

CASE STUDY # 1 SURFACE / CREEPFEED GRINDING	
WORKPIECE	
MATERIAL	Ni based alloy
PART TYPE / OPERATION	Root form
WORKPIECE	Aerospace blade
NORTON PRODUCT	
SHAPE AND DIMENSIONS	01_508 x 50 x 127
SPECIFICATION	SWA 60 E+ 24 VS4CF
WHEEL SPEED	16 to 20 m/s
MACHINE	
OEM	Blohm
SPECIFICATION	Emulsion
DRESSER	Rotary, continuous mode
COMPETITOR	
SPECIFICATION	From competition

RESULTS

- **Fewer passes, deeper cuts**
- **Table speed + 20%**
- **Consistent part integrity**
- **20% reduction in cycle time**
- **25% increase in wheel life**

CASE STUDY # 2 SURFACE / CREEPFEED GRINDING	
WORKPIECE	
MATERIAL	Ni based alloy
PART TYPE / OPERATION	Root form
WORKPIECE	Aerospace blade
NORTON PRODUCT	
SHAPE AND DIMENSIONS	01_450 x 38 x 127
SPECIFICATION	SWA 60 E+ 28 VS4CF
WHEEL SPEED	20 m/s
MACHINE	
OEM	ELB
SPECIFICATION	Emulsion
DRESSER	Rotary, continuous mode
COMPETITOR	
SPECIFICATION	Norton IPA 60 HA 29 VTX2

RESULTS

- **Table speed +50%**
- **18% reduction in cycle time**
- **25% increase in wheel life**

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