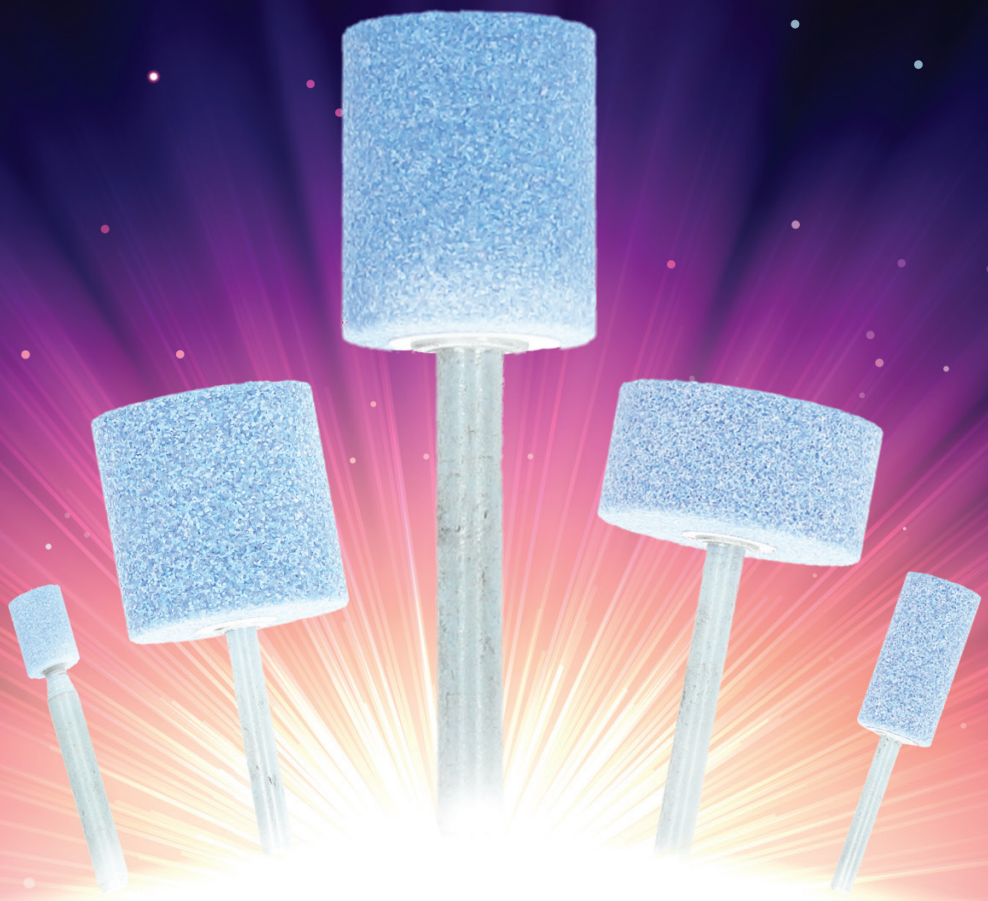
NORTON®
SAINT-GOBAIN

Reshaping your world®

QUANTUM® VITRIUM³



A QUANTUM LEAP
AHEAD OF THE COMPETITION

SAINT-GOBAIN

NORTON QUANTUM® MOUNTED POINTS TAKE A **GIANT LEAP IN PERFORMANCE**, RANGE AND LIFE.

Utilizing Norton's proven ceramic Quantum grain and Vitrium3® bond technology, this new range of vitrified mounted points offers higher material removal and longer product life than competitors when tested in a controlled environment.

LIFE
BUT NOT AS WE KNOW IT

up to 30% more grinding time

Reduce wasted down time with less product changeover, increasing productivity ratio saving total abrasive cost.

STELLAR
PERFORMANCE

finish faster with higher throughput

Higher metal removal rate and a smooth grinding experience thanks to reduced vibrations through the machine.

TECHNOLOGICALLY ADVANCED

reduces total abrasive cost

Self-sharpening grain prevents loading, for free cutting action with no glazing. No need for costly, time consuming rework. The coolest cut, maintains metallurgic integrity.

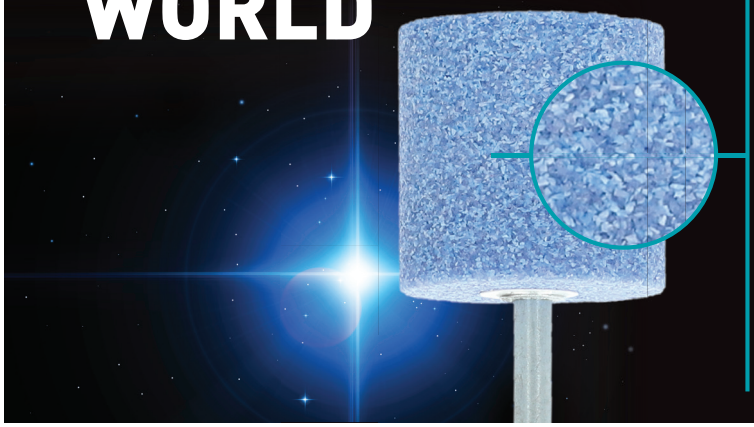
A RANGE FOR ALL MATERIALS

200 sizes available

Fast grinding on heat sensitive alloys (Fe and Ni based) hard and medium steels, a full range of shapes and sizes available.

A COMBINATION THAT'S

OUT OF THIS WORLD



NORTON SAINT-GOBAIN VITRIUM3

Norton Vitrium^3 is a revolutionary bond which facilitates exceptionally cool cutting, profile holding and high speed for increased throughput.

PROVIDING A PERFECT BLEND OF SHARPNESS AND TOUGHNESS.

NORTON SAINT-GOBAIN QUANTUM

Norton Quantum ceramic grain was devoloped from Norton patented Seeded-Gel technology. The revolutionary ceramic grain multiplies the cutting efficiency by controlling breakdown at micrometric level.

HIGH PRECISION AND VERSABILITY ACROSS MANY APPLICATIONS.

MARKETS & APPLICATIONS

WHY CHOOSE A MOUNTED POINT?

In many industries, grinding needs can be very specific. The work piece might be small, intricate, curved or the metal might not lend itself to other abrasive use. Mounted points excel where others can't, and the following industries are no exception:

FOUNDRY

Mounted points are hard wearing in industries where grinding volumes are high.

AEROSPACE

On tricky shapes of turbine blade components, nozzle guide vanes, inconel, titanium and stainless steel.

METAL FABRICATION

Weld repair in corners and tight spaces, pipe work and mouldings, intersections and risers.

TOOL ROOM

Burr removal, bevelling, sharpening, preparation of ID and OD grinding.

THE RANGE

Never before has there been such a comprehensive range of sizes, with 200 stock sizes, and 80 different shapes starting from 36 grit for high material removal to 120 for a perfect finish. Mounted points are available with shaft dimensions 3mm, 6mm and 8mm; there's a solution available for any application.

THE PROOF IS IN THE **PERFORMANCE**

All tests were carried out under controlled conditions by the same operator and ran until the products reached the end of life.

TEST 1: REDUCE ABRASIVE COST

SURFACE CONTACT:	16mm
RPM:	25,000
SHAPE:	W196
DIMENSION:	16x32mm
SHAFT:	6mm
GRIT:	46

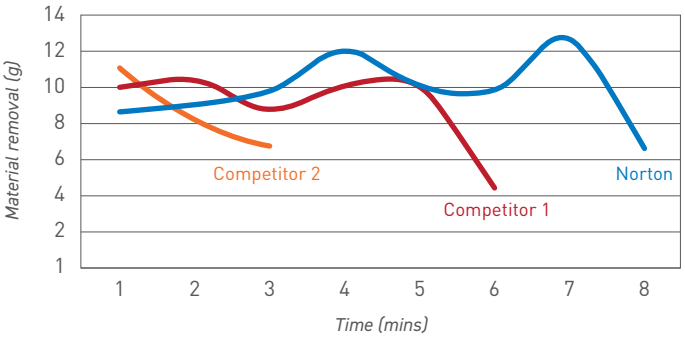
Removed 38% more material than the leading competitor and lasted for 5:01s longer

RESULTS

Under the same conditions, Norton showed a stable grinding time of 8 minutes, 37 seconds, removing 88,2g of metal, less vibration was also felt through the machine for a more comfortable grinding experience. Competitor 1 lasted 6 minutes 25 seconds and removed 63,8g. Finally competitor 2 saw a rapid deterioration, removing only 26.2g before the mounted point broke at 2:38s. Uncomfortable high levels of vibration were also reported.

SOFT STEEL (Automotive component)

Edge grinding (45°) under medium pressure



TEST 2: REMOVE MORE MATERIAL

SURFACE CONTACT:	12mm
RPM:	25,000
SHAPE:	W196
DIMENSION:	16x32mm
SHAFT:	6mm
GRIT:	46

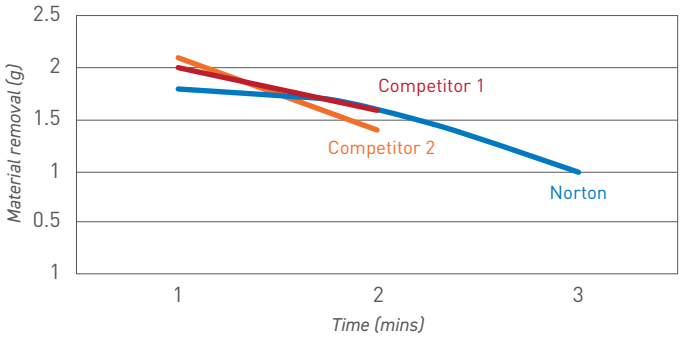
Removed 25% more material than the competition!

RESULTS

Under the same testing conditions, Norton competitor 1 and 2 saw almost the same g-ratio during the first two minutes of grinding. However, both competitor mounted points broke before the end of the second minute. Norton last 45 seconds longer and removed 25% more material than the competition.

STAINLESS STEEL (Type 316)

Edge grinding (45°) under high pressure



TEST 3: LONGER LIFE AND HIGHER PRODUCTIVITY

SURFACE CONTACT:	10mm
RPM:	25,000
SHAPE:	W207
DIMENSION:	20x40mm
SHAFT:	10mm
GRIT:	46

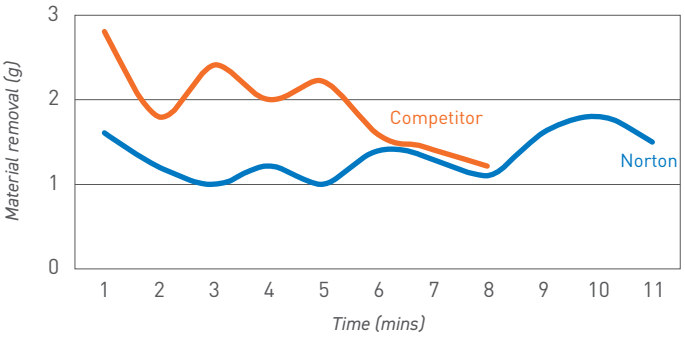
Grinds for 2m9s longer than the competitor!

RESULTS

Both Norton and the competitor mounted points appear to work well under low pressure. Competitor 1 mounted point broke after grinding for 8 minutes 33 seconds versus Norton who continued to grind for a further 2 minutes 9 seconds, with a total grinding time of 11:23s. Both mounted points removed the same amount of material during grinding.

CONSTRUCTION STEEL (type S355)

Straight grinding under low pressure



TEST 4: GRIND FOR LONGER

SURFACE CONTACT:	10mm
RPM:	25,000
SHAPE:	W207
DIMENSION:	20x40mm
SHAFT:	6mm
GRIT:	46

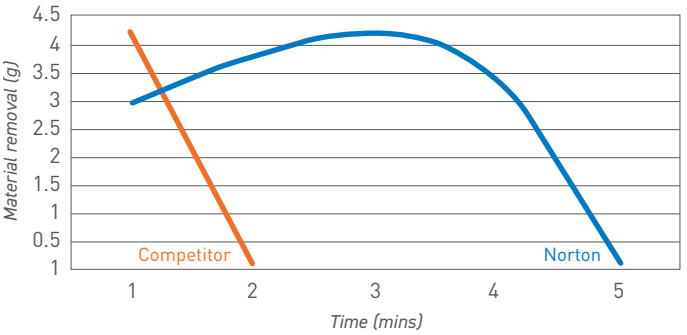
Grinds for 4 minutes longer than the competition!

RESULTS

Under high pressure, the competitor mounted point was not robust enough to grind this type of construction steel. Norton was able to grind for 4 further minutes and removed 15g of material.

CONSTRUCTION STEEL (type S355)

Straight grinding under high pressure



SAINT-GOBAIN

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SAFETY WHEN IN USE

Safety warning: Grinding generates dust. Excessive inhalation may affect breathing function. To avoid breathing impairment always use a dust mask and the appropriate protective equipment. Improper use may cause breakage and serious injury. Comply with ANSI B7.1, OSHA and safety guide furnished with package. Do not use a speed above the recommended RPM.

Form # 3601