

## FEATURED PRODUCTS



UPGRADED PERFORMANCE

### NORTON QUANTUM (5NQ)

BEST CHOICE FOR VERSATILITY, MAXIMUM PERFORMANCE AND COST SAVINGS

#### FEATURES

- Revolutionary, engineered ceramic grain shape and chemistry with proven bond technology – green
- NEW! Coolest cutting, high-speed, precise form holding Vitrium 3 VS3 Bond

#### BENEFITS

- Versatile; for all low, medium and high force applications ranging from cast iron, to stainless steel and hard-to-grind Inconel and titanium
- Perform well on old and new machines
- 33% to 100% longer life vs. competitive ceramic products
- 30%+ higher metal removal rate
- 15%+ lower threshold power
- Lowest total grinding costs
- Highest productivity; lowest cycle and process time; most accurate finished parts



UPGRADED PERFORMANCE

### NORTON SG

BEST CHOICE FOR HIGH PRODUCTIVITY, LOW TOTAL PER-PART GRINDING COST

#### FEATURES

- High-performance seeded gel ceramic aluminum oxide abrasive
- Self-sharpening abrasive
- High performance VS and VSP bonds
- NEW! coolest cutting, high-speed, precise form holding Vitrium 3 VS3 Bond
- Provide sharp edge on tools and dies
- 5SG – durable Norton SG and aluminum oxide blend – blue
- NORPOR 3SGR – Norton SG and 48A abrasive blend with VP2 porous bond – purple

#### BENEFITS

- Fast stock removal, cool, superior cutting
- 3X - 5X more life than aluminum oxide wheels
- Double rough stock removal rate versus conventional abrasives
- Less burn, less dressing; very consistent performing wheel
- Versatile; exceptional form holding
- Highest productivity; lowest cycle and process time; most accurate finished parts
- Longer life of tools and dies in production
- High stock removal rates, excellent productivity, long wheel life, low overall grinding cost
- Maximum productivity in heat-sensitive, heavy stock removal operations



### NORTON 32A

BETTER CHOICE FOR MEDIUM TO HEAVY STOCK REMOVAL

#### FEATURES

- Sharp monocrystalline aluminum oxide grain – the industry's most versatile abrasive – purple

#### BENEFITS

- Free cutting on a wide range of applications and materials
- Outstanding form holding



### NORTON 38A

GOOD CHOICE FOR LIGHT GRINDING OF TOOL STEELS

#### FEATURES

- White, friable abrasive grain
- Consistent quality
- NORPOR 38A – most friable, aluminum oxide abrasive with VP2 porous bond – white
- Versatile

#### BENEFITS

- Cool and burn-free cutting; ideal for heat-sensitive applications with light to moderate feed rates
- Excellent balance and dimensional accuracy time after time
- Exceptionally cool cutting in light pressure grinding applications, or heat-sensitive applications
- Ideal for use across a broad variety of tool steels



### NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR USE ON GENERAL PURPOSE APPLICATIONS; ECONOMICAL

#### FEATURES

- Durable aluminum oxide abrasive and strong vitrified bond – Blue
- Versatile, economical

#### BENEFITS

- Consistent stock removing performance on narrow to medium contact areas; cool cutting
- Ideal when numerous small jobs are run on one machine
- The choice when initial price is the main purchasing criterion

## Vitrified Wheels For Steel Applications CONTINUED

### AVAILABILITY



**BEST**



**BETTER**



**GOOD**

TIER:  
BRAND:  
TRADENAME:  
ABRASIVE:

Norton  
**QUANTUM / NORTON SG**  
Ceramic Alumina

Norton  
**32A / 48A**  
Aluminum Oxide

Norton  
**38A / GEMINI**  
Aluminum Oxide

SIZE (D x T x H)	MAX. RPM	MIN./STD. PKG.	SPEC.	PART #	SPEC.	PART #	MIN./STD. PKG.	SPEC.	PART #
<b>Type 01 Straight</b>									
7 x 1/2 x 1-1/4	3,600	1/10	5SG60-JVS3	66253375043	32A80-KVBE	66253288784 S	1/10	38A100-KVBE	66252941168
	3,600	1/10	5SG60-KVS	66252940198	32A80-LVBE	66252940900	1/10	38A120-JVBE	66252941174
	3,600	1/10	5SG60-LVS	66252940199	32A100-IVBE	66252940907	1/10	38A120-KVBE	66252941175
	3,600	1/10	5SG80-IVS	66252940200	32A100-JVBE	66252941008	1/10	38A150-JVBE	66252941179
	3,600	1/10	5SG80-IVSP	66252940527	32A120-LVBE	66252941018 B	1/10	38A150-MV	66252940595
	3,600	1/10	5SG80-JVS	66252940201 B	32A120-LVBE	66253288786 S	1/10	38A220-QV	66252940605
	3,600	1/10	5SG80-JVS	66253288793 S	48A46-HVP2	66252916215 B	10/10	Gemini 46-H	66253246795
	3,600	1/10	5SG80-KVS	66252940202	48A60-HVP2	66252916217 B	10/10	Gemini 46-I	66253246800
	3,600	1/10	5SG80-LVS	66252940203			10/10	Gemini 46-J	66253246802
	3,600	1/10	5SG100-JVS	66252940204			10/10	Gemini 46-K	66253246812
	3,600	1/10	5SG100-KVS	66252940205			10/10	Gemini 60-I	66253246818
	3,600						10/10	Gemini 60-J	66253246820
	3,600						10/10	Gemini 60-K	66253246821
	3,600						10/10	Gemini 80-K	66253246832
3,600						10/10	Gemini 100-K	66253246838	
7 x 5/8 x 1-1/4	3,600	1/10			32A60-IVBE	66252941762			
7 x 3/4 x 1-1/4	3,600	1/10	5SG46-IVS	66252942304	32A46-GVBEP	66252942070	1/10	38A46-HVBE	66252941950
	3,600	1/10	5SG46-KVS	66252942305	32A46-HVBE	66252941930	1/10	38A46-KVBE	66252941954
	3,600	1/10	5SG60-JVS	66252942307	32A46-IVBE	66252941931	1/10	38A60-IVBE	66252942207
	3,600	1/10	5SG60-KVS	66252942308	32A46-KVBE	66252941935	1/10	38A60-KVBE	66252942060
	3,600	1/10			32A60-IVBE	66252941938			
	3,600	1/10			32A60-KVBE	66252941943			
7 x 1 x 1-1/4	3,600	1/10	5SG60-JVS	66252942429	32A80-IVBE	66252941946			
	3,600	1/10	5SG60-KVS	66252942430	32A46-HVBE	66252942513	1/10	38A46-HVBE	66252942534
	3,600	1/10			32A46-JVBE	66252942268			
200mm x 10mm x 31.75mm	2,870	5	320 S/C Organic Micro Dressing wheels	66253296349*	32A60-IVBE	66252942524			
					32A60-KVBE	66252942709			
8 x 1/4 x 1-1/4	+	1/10	5SG60-KVS	66253043351	32A46-HVBE	66253043412	1/10	38A60-IVBE	66253043431
	+	1/10	5SG80-KVS	66253043353	32A46-IVBE	66253043310	1/10	38A60-JVBE	66253043432
	3,600	1/10			32A46-KVBE	66253043413	1/10	38A60-KVBE	66253010825
	3,600	1/10			32A60-IVBE	66253043416 B	1/10	38A80-IVBE	66253043437
	3,600	1/10			32A60-IVBE	66253288796 S	1/10	38A80-JVBE	66253043439
	3,600	1/10			32A60-JVBE	66253043417	1/10	38A80-KVBE	66253043461
	3,600	1/10			32A60-KVBE	66253043399	1/10	38A100-IVBE	66253043445
	3,600	1/10			32A80-IVBE	66253043421	1/10	38A100-KVBE	66253043447
	3,600	1/10			32A80-KVBE	66253043458 B	1/10	38A120-KVBE	66253043450
	3,600	1/10			32A80-KVBE	66253288797 S	1/10	38A150-KVBE	66253043451
	3,600	1/10			32A80-LVBE	66253043425			
	3,600	1/10			32A100-IVBE	66253043426			
	3,600	1/10			32A100-KVBE	66253043428			
	3,600	1/10			32A60-KVBE	66253043565			

B = BEST SELLER; PERFORMS WELL IN A VARIETY OF APPLICATIONS FOR MANY SATISFIED CUSTOMERS S = SINGLE PACK  
\* = FOR FINE GRIT DIAMOND POLYIMIDE WHEELS

## TECHtip

### 8" TYPE 01 AND TYPE 05 VITRIFIED TOOLROOM WHEELS' MAXIMUM OPERATING SPEEDS:

- Stock NorPor VP2 wheels = 3,600 RPMs
- All other 46 grit, J grade and harder = 3,600 RPMs
- All other 54 grit, I grade and harder = 3,600 RPMs
- All other 60 grit and finer, H grade and harder = 3,600 RPMs

- † Exceptions to the rule: speed-tested to 3,600 RPM
- All other specifications = 3,105 RPMs



It is the user's responsibility to refer to and comply with ANSI B7.1

**For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum and Vitrium<sup>3</sup> bond ceramic wheels.**

## How to Read an Abrasive Product Specification

Conventional Grinding Wheels																	
32A			46			I			8			V			BE		
ABRASIVE			GRIT SIZE			GRADE			STRUCTURE			BOND TYPE			NORTON SYMBOL		
ALUMINUM OXIDE	CERAMIC ALUMINUM OXIDE	SILICON CARBIDE	ZIRCONIA ALUMINA	COARSE	MEDIUM	FINE	SOFT	MEDIUM	HARD	RELATIVE GRAIN SPACING	Resin = B Shellac = E Plastic = P Rubber = R Vitrified = V	Designates a variation or modification to bond.					
23A	3SGP	39C	4ZF	12	30	80	D	I	Q	2							
25A	3SGR	Crystolon	5ZF	14	36	90	E	J	R	4							
32A	3SGR	Crystolon	5ZF	20	54	120	G	L	T	5							
32AC (blend)	5SG	Masonry	AZ (blend)	24	60	150	H	M	U	6							
38A	BRG	BlueFire			70	220		N	V	8							
48A	SG	Charger						O	Y	12							
53A	SXG	(blend)						P	Z	16							
55A	NorZon Plus	NZ								19							
57A	(blend)	NZC (blend)								25							
U57A	NQ Quantum	NZIII								28							
64A	Targa	NZIV															
86A		NorZon															
90A		ZI															
Alundum																	
FabCut																	
India																	
Gemini																	
Metal																	
Vortex																	

## Shelf Life and Proper Storage of Grinding Wheels

It has always been Saint-Gobain Abrasives recommendation that resinoid bonded grinding wheels be used within 2 years from the date of manufacture. This recommendation assumes that resinoid bonded grinding wheels have been stored under ideal storage conditions. It might be true that under ideal storage conditions resinoid bonded grinding wheels can survive without any degradation in strength for well over two years. However, it is always wise to suspect any wheels over two years old and have them reinspected or re-speed tested to determine if there has been any degradation in strength. If the wheels are stored under less than ideal conditions, they might have a much shorter shelf life depending upon the severity of storage conditions. These same comments also apply to rubber and shellac bonded grinding wheels.

As for vitrified grinding wheels, the shelf life is less influenced by humidity and adverse storage conditions as compared to resinoid, rubber or shellac, but even vitrified grinding wheels do not have an infinite shelf life. The best procedure and the best rule of thumb is to have any wheel that is two years old or older re-speed tested and reinspected to ensure it is fit for use. The procedure for having this done and the charges will be explained by our Customer Service Department, but the cost of shipping as well as the cost of re-inspection is the customer's responsibility. Also, any wheels rejected or otherwise lost in the re-inspection process will also be the responsibility of the customer.

Keep in mind, however, that this procedure is good to verify the reliability of a product but must not be performed until you are ready to consume the wheel. If wheels are sent back after the two year time frame for re-inspection and re-testing and then put back on the shelf, there is no telling how long they will be fit for use after that last inspection. Therefore, these wheels must be consumed as soon as is practical.

