

## 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



TIER:  
BRAND:  
TRADENAME:  
ABRASIVE:

**BEST**  
Norton  
**QUANTUM / NORTON SG**  
Ceramic Alumina

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

**GOOD**  
Norton  
**38A**  
Aluminum Oxide

SIZE (D x T x H)	MAX. RPM	MIN./STD. PKG.	SPEC.	PART #	SPEC.	PART #	MIN./STD. PKG.	SPEC.	PART #	
<b>Type O1 Straight</b>										
10 x 1 x 3	2,485	1/-	5SG46-GVSP	66253160494	32A46-HVBE	66253160747	1/-	38A46-IVBE	66253160889	
	2,485	1/-	5SG46-IVS	66253160400	32A46-IVBE	66253160750	1/-	38A46-JVBE	66253160892	
	2,485	1/-	5SG46-JVS	66253160401	32A46-JVBE	66253160754	1/-	38A60-IVBE	66253160898	
	2,485	1/-	5SG46-KVS	66253160402	32A46-KVBE	66253160758	1/-	38A60-KVBE	66253160900	
	2,485	1/-	5SG60-GVSP	66253160495	32A60-IVBE	66253160769				
	2,485	1/-	5SG60-IVS	66253160403	32A60-KVBE	66253160777				
	2,485	1/-	5SG60-JVS	66253160404	32A80-KVBE	66253160782				
	2,485	1/-	5SG60-KVS	66253160405						
12 x 1/2 x 3	2,070	2/-			32A60-JVBE	66253262134				
	2,070	2/-			32A80-KVBE	66253262110				
12 x 1/2 x 5	2,070	2/-			32A60-KVBE	66253262107				
	2,070	2/-			32A80-KVBE	66253262111				
12 x 3/4 x 3	2,070	1/-	5SG46-IVS	66253262204	32A46-GVBEP	66253262392	1/-	38A46-JVBE	66253262281	
	2,070	1/-			32A46-HVBE	66253262260				
	2,070	1/-			32A46-IVBE	66253262261				
	2,070	1/-			32A60-IVBE	66253262270				
	2,070	1/-			32A60-KVBE	66253262273				
12 x 1 x 1-1/4	2,070	1/-			32A46-KVBE	66253262570				
12 x 1 x 3	•	1/-	3SGR46-HVP2	66253220885	32A46-GVBEP	66253262840	1/-	38A46-HVBE	66253262700	
	2,070	1/-	5SG46-HVSP	66253262488	32A46-HVBE	66253262562	1/-	38A46-IVBE	66253262702	
	2,070	1/-	5SG46-IVS	66253262500	32A46-HVBEP	66253262842	1/-	38A46-JVBE	66253262704	
	2,070	1/-	5SG46-JVS	66253262501	32A46-IVBE	66253262564	1/-	38A60-IVBE	66253262713	
	2,070	1/-	5SG46-KVS	66253262502	32A46-JVBE	66253262567				
	2,070	1/-	5SG60-GVSP	66253262593	32A46-KVBE	66253262572				
	2,070	1/-	5SG60-IVS	66253262503	32A60-HVBE	66253262580				
	2,070	1/-	5SG60-JVS	66253262504	32A60-IVBE	66253262581				
	2,070	1/-	5SG60-KVS	66253262505	32A60-KVBE	66253262689				
	2,070	1/-			32A80-KVBE	66253262532				
	2,710	1/-			48A60-HVP2	66253220891				
	12 x 1 x 5	2,070	1/-	5SG46-GVSP	66253262594	32A46-GVBEP	66253262841	1/-	38A46-IVBE	66253262703
		2,070	1/-	5SG46-IVS	66253262508	32A46-HVBE	66253262563	1/-	38A60-KVBE	66253262719
2,070		1/-	5SG46-JVS	66253262509 B	32A46-IVBE	66253262565				
2,070		1/-	5SG46-KVS	66253262510	32A46-KVBE	66253262573				
2,070		1/-	5SG60-GVSP	66253262595	32A60-HVBE	66253262734				
2,070		1/-	5SG60-IVS	66253262511	32A60-IVBE	66253262582				
2,070		1/-	5SG60-JVS	66253262512	32A60-JVBE	66253262686				
2,070		1/-	5SG60-KVS	66253262513	32A60-KVBE	66253262691 B				
2,070		1/-	5SG80-JVS	66253262515	32A80-JVBE	66253262696				
2,070		1/-			32A80-KVBE	66253262697				
2,070		1/-			32A46-IVBE	66253262301				
12 x 1-1/4 x 3	2,070	1/-			32A46-KVBE	66253263146				
12 x 1-1/2 x 3	2,070	1/-	5SG46-IVS	66253202820	32A46-HVBE	66253263143				
	2,070	1/-			32A46-IVBE	66253263144				
	2,070	1/-			32A60-JVBE	66253263123				
12 x 1-1/2 x 5	2,070	1/-	5NQ46-IVS	69083159115	32A46-GVBEP	66253263192	1/-	38A46-IVBE	66253214987	
	2,070	1/-	5NQ46-JVS	69083159116	32A46-HVBE	66253263128				
	2,070	1/-	5NQ60-GVSP	69083159117	32A46-IVBE	66253263145				
	2,070	1/-	5NQ60-JVS	69083159118	32A46-JVBE	66253263120				
	2,070	1/-	3SGP60-GVSP	66253215030	32A60-HVBE	66253263149				
	2,070	1/-	5SG46-GVSP	66253203453	32A60-KVBE	66253263034				
	2,070	1/-	5SG46-IVS	66253202842						
	2,070	1/-	5SG46-JVS	66253202926						
	2,070	1/-	5SG60-GVSP	66253262596						
12 x 2 x 1-1/4	2,070	1/-			32A46-KVBE	66253263461				
	2,070	1/-			32A46-MVBE	66253263463				
12 x 2 x 3	2,070	1/-			32A46-IVBE	66253263459				
12 x 2 x 5	2,070	1/-			32A46-HVBE	66253263403				
	2,070	1/-			32A46-IVBE	66253262302				
	2,070	1/-			32A60-KVBE	66253263465				

+ † REFER TO THE TECH TIPS AT THE BOTTOM OF PAGE 223 • 12" TYPE O1 WHEEL MAXIMUM RPM: NORPOR WHEELS = 2,710; ALL OTHERS = 2,070  
B = BEST SELLER; PERFORMS WELL IN A VARIETY OF APPLICATIONS FOR MANY SATISFIED CUSTOMERS

## 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	37C	4NZ	12	30	80	D	I	Q	2							
25A	3SGR	39C	4ZF	16	46	100	F	K	S	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.

