

## 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

AVAILABILITY



TIER:  
BRAND:  
TRADENAME:  
ABRASIVE:

<b>BEST</b>	<b>BETTER</b>	<b>GOOD</b>
Norton	Norton	Norton
<b>QUANTUM / NORTON SG</b>	<b>32A</b>	<b>38A / GEMINI</b>
Ceramic Alumina	Aluminum Oxide	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>										
7 x 1/8 x 1-1/4	3,275	1/10			32A60-IVBE	66252939112	1/10	38A80-IVBE	66252939219	
	3,600						1/10	38A100-KVBE	66252939223	
7 x 1/4 x 1-1/4	3,600	1/10	5NQ46-IVS	66253350690	32A46-HVBE	66252939543	1/10	38A46-HVBE	66252939690	
	3,600	1/10	5NQ60-JVS	66253293579	32A46-IVBE	66252939544	1/10	38A46-IVBE	66252939691	
	3,600	1/10	5SG46-IVS	66252940207 B	32A46-JVBE	66252939545	1/10	38A46-JVBE	66252909755	
	3,600	1/10	5SG46-IVS	66253288575 S	32A46-KVBE	66252939862	1/10	38A60-HVBE	66252939695	
	3,600	1/10	5SG60-IVS	66252939459 B	32A60-HVBE	66252939547	1/10	38A60-IVBE	66252939696	
	3,600	1/10	5SG60-IVS	66253288576 S	32A60-IVBE	66252939548 B	1/10	38A60-JVBE	66252939698	
	3,600	1/10	5SG60-JVS	66252939460	32A60-IVBE	66253288569 S	1/10	38A60-KVBE	66252939700	
	3,600	1/10	5SG60-KVS	66252939461 B	32A60-JVBE	66252939549 B	1/10	38A60-HVBE	66252939707	
	3,600	1/10	5SG60-KVS	66253288577 S	32A60-KVBE	66252939552 B	1/10	38A80-IVBE	66252939808	
	3,600	1/10	5SG80-IVS	66252939462	32A60-KVBE	66253288570 S	1/10	38A80-JVBE	66252939809	
	3,600	1/10	5SG80-JVS	66252939463	32A80-HVBE	66252939557	1/10	38A80-KVBE	66252939812	
	3,600	1/10	5SG80-KVS	66252939464	32A80-IVBE	66252939658 B	1/10	38A100-IVBE	66252939823	
	3,600	1/10	5SG100-JVS	66252939467	32A80-IVBE	66253288571 S	1	38A100-IVBE	66253288799 S	
	3,600	1/10	5SG100-KVS	66252939468 B	32A80-JVBE	66252939660 B	1/10	38A100-JVBE	66252939826	
	3,600	1/10	5SG100-KVS	66253288578 S	32A80-KVBE	66252939662 B	1/10	38A100-KVBE	66252939827	
	3,600	1/10			32A80-KVBE	66253288572 S	1/10	38A100-LVBE	66252939830	
	3,600	1/10			32A100-IVBE	66252939670 B	1/10	38A120-JVBE	66252939833	
	3,600	1/10			32A100-JVBE	66252939672	1/10	38A120-KVBE	66252939834	
	3,600	1/10			32A100-IVBE	66253288573 S	1/10	38A150-KVBE	66252939838	
	3,600	1/10			32A100-KVBE	66252939673 B	1/10	38A150-LVBE	66252939839	
	3,600	1/10			32A100-KVBE	66253288574 S	1/10	38A150-MV	66252939521	
	3,600	1/10			32A120-IVBE	66252939680	1/10	38A220-KV	66252939528	
	3,600	1/10			32A120-KVBE	66252939682	1/10	38A220-LV	66252939529	
	3,600	1/10			32A220-LVBE	66252939689	1/10	38A220-LVBE	66252939847	
	3,600	1/10					1/10	38A220-MV	66252939530	
	3,600	10/10					10/10	Gemini 60-I	66253246722	
	3,600	10/10					10/10	Gemini 60-J	66253246788	
	3,600	10/10					10/10	Gemini 60-K	66253246789	
	3,600	10/10					10/10	Gemini 80-K	66253246792	
	7 x 3/8 x 1-1/4	3,600	1/10			32A60-KVBE	66252940276	1/10	38A60-KVBE	66252940294
		3,600	1/10			32A80-KVBE	66252940284	1/10	38A80-IVBE	66252940297
	7 x 1/2 x 1-1/4	3,600	1/10	5NQ46-HVS3	66253375053	32A46-FVBEP	66252941203	1/10	25A46-HVP2	66252916219
3,600		1/10	5NQ46-IVS	69083159103	32A46-GVBE	66252940862	1/10	25A60-HVP2	66252916221	
3,600		1/10	5NQ46-IVS3	66253375052	32A46-GVBEP	66252941204 B	1/10	38A46-GVBE	66252941022	
3,600		1/10	5NQ46-JVS	69083159104	32A46-HVBE	66252940863 B	1/10	38A46-GVBEP	66252941323	
3,600		1/10	5NQ60-GVSP	69083159105	32A46-HVBE	66253288775 S	1/10	38A46-HVBE	66252941023	
3,600		1/10	5NQ60-IVS3	66253375047	32A46-HVBEP	66252941205 B	1	38A46-HVBE	66253288770 S	
3,600		1/10	5NQ60-JVS	69083159106	32A46-IVBE	66252940864 B	1/10	38A46-HVBEP	66252941324	
3,600		1/10	5NQ60-JVS3	66253375046	32A46-IVBE	66253288776 S	1/10	38A46-HVP2	66252916223	
3,600		1/10	3SGP46-GVSP	66252911717	32A46-IVBEP	66252941206	1/10	38A46-IVBE	66252941024	
3,600		1/10	3SGR46-HVP2	66252916211	32A46-JVBE	66252940865 B	1/10	38A46-JVBE	66252941026	
3,600		1/10	3SGR60-HVP2	66252916213	32A46-JVBE	66253288777 S	1	38A46-JVBE	66253288767 S	
3,600		1/10	5SG46-GVSP	66252940522	32A46-KVBE	66252940867 B	1/10	38A46-KVBE	66252941028	
3,600		1/10	5SG46-HVS3	66253375050	32A54-IVBE	66252940873	1/10	38A60-HVBE	66252941035	
3,600		1/10	5SG46-HVSP	66252941130	32A60-GVBEP	66252941313	1/10	38A60-HVBEP	66252941330	
3,600		1/10	5SG46-IVS	66252940193 B	32A60-HVBE	66252940879 B	1/10	38A60-IVBE	66252941036	
3,600		1/10	5SG46-IVS	66253288788 S	32A60-HVBEP	66252941314	1/10	38A60-JVBE	66252941038	
3,600		1/10	5SG46-IVS3	66253375049	32A60-IVBE	66252940880 B	1	38A60-JVBE	66253288766 S	
3,600		1/10	5SG46-IVSP	66252940523	32A60-IVBE	66253288779 S	1/10	38A60-KVBE	66252941041	
3,600		1/10	5SG46-JVS	66252940194 B	32A60-JVBE	66252940882 B	1	38A60-KVBE	66252941049	
3,600		1/10	5SG46-JVS	66253288789 S	32A60-JVBEP	66252941316	1/10	38A60-LVBE	66252911677	
3,600		1/10	5SG46-KVS	66252940195	32A60-KVBE	66252940885 B	1/10	38A80-HVBE	66252941047	
3,600		1/10	5SG60-GVSP	66252940524	32A60-KVBE	66253288782 S	1/10	38A80-IVBE	66252941048	
3,600		1/10	5SG60-IVS	66252940196 B	32A60-LVBE	66252940888	1/10	38A80-JVBE	66252941049	
3,600		1/10	5SG60-IVS	66253288791 S	32A80-HVBE	66252940894	1/10	38A80-KVBE	66252941054	
3,600		1/10	5SG60-IVS3	66253375045	32A80-IVBE	66252940895 B	1	38A80-KVBE	66253350641 S	
3,600		1/10	5SG60-IVSP	66252940525	32A80-IVBE	66253288783 S	1/10	38A80-LVBE	66252941056	
3,600		1/10	5SG60-JVS	66252940197 B	32A80-JVBE	66252940897 B	1/10	38A100-IVBE	66252941163	
3,600		1/10	5SG60-JVS	66253288792 S	32A80-KVBE	66252940899 B	1/10	38A100-JVBE	66252941165	

B = BEST SELLER; PERFORMS WELL IN A VARIETY OF APPLICATIONS FOR MANY SATISFIED CUSTOMERS S = SINGLE PACK

CONTINUED

## 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	OXIDE	37C	4NZ	12	30	80	D	I	Q	↑ ↓	2						
25A	3SGP	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.

