FEATURED PRODUCTS



NORTON QUANTUM (5NQ)

BEST CHOICE FOR VERSATILITY, MAXIMUM PERFORMANCE AND COST SAVINGS

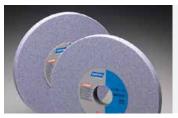
FEATURES	BENEFITS
Revolutionary, engineered ceramic grain shape and chemistry with proven bond technology – green	 Versatile; for all low, medium and high force applications ranging from cast iron, to stainless steel and hard-to-grind Inconel and titanium Perform well on old and new machines 33% to 100% longer life vs. competitive ceramic products 30%+ higher metal removal rate 15%+ lower threshold power Lowest total grinding costs
■ NEW! Coolest cutting, high-speed, precise form holding Vitrium 3 VS3 Bond	Highest productivity; lowest cycle and process time; most accurate finished parts



NORTON SG

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

FEATURES	BENEFITS
High-performance seeded gel ceramic aluminum oxide abrasive	 Fast stock removal, cool, superior cutting 3X - 5X more life than aluminum oxide wheels Double rough stock removal rate versus conventional abrasives
Self-sharpening abrasive	Less burn, less dressing; very consistent performing wheel
■ High performance VS and VSP bonds	■ Versatile; exceptional form holding
NEW! coolest cutting, high-speed, precise form holding Vitrium 3 VS3 Bond	Highest productivity; lowest cycle and process time; most accurate finished parts
Provide sharp edge on tools and dies	Longer life of tools and dies in production
5SG – durable Norton SG and aluminum oxide blend – blue	High stock removal rates, excellent productivity, long wheel life, low overall grinding cost
 NORPOR 3SGR – Norton SG and 48A abrasive blend with VP2 porous bond – purple 	Maximum productivity in heat-sensitive, heavy stock removal operations



NORTON 32A

BETTER CHOICE FOR MEDIUM TO HEAVY STOCK REMOVAL

FEATURES	BENEFITS			
 Sharp monocrystalline aluminum oxide grain – the industry's most versatile abrasive – purple 	Free cutting on a wide range of applications and materialsOutstanding form holding			



NORTON 38A

GOOD CHOICE FOR LIGHT GRINDING OF TOOL STEELS.

FEATURES	BENEFITS				
■ White, friable abrasive grain	Cool and burn-free cutting; ideal for heat-sensitive applications with light to moderate feed rates				
■ Consistent quality	■ Excellent balance and dimensional accuracy time after time				
■ NORPOR 38A – most friable, aluminum oxide abrasive with VP2 porous bond – white	Exceptionally cool cutting in light pressure grinding applications, or heat-sensitive applications				
■ Versatile	■ Ideal for use across a broad variety of tool steels				



NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR USE ON GENERAL PURPOSE APPLICATIONS; ECONOMICAL

FEATURES	BENEFITS		
Durable aluminum oxide abrasive and strong vitrified bond – Blue	 Consistent stock removing performance on narrow to medium contact areas; cool cutting 		
■ Versatile, economical	Ideal when numerous small jobs are run on one machineThe choice when initial price is the main purchasing criterion		

ID and Race Wheels



For more program details, ask your Norton sales representative to review the First Line VFL ID & Race Wheel Brochure #6981 with you.

ID and Race Wheel FastTrack Availability

Type 01 Straig	ght 💮 💮			
Diameter	r: 0.164" thru 4.532"	Thicknes		
Type 05 Rece	ssed One Side			
Diameter	r: 0.407" thru 4.625"	Thickne	ss: 3/16" thru 3.100"	
ABRASIVE	25A, 32A, 38A, 48A, 53A, 57A	5TG**	Quantum (NQ) 1SG, 3SG, 5SG	32AA
GRIT	46* - 120	80/1, 120/1	36 - 150	46 - 80
GRADE	J - P	I - M	I - N	I - M
STRUCTURE	6	8	6	6
BOND	VFL	VFL	VFL	VFL
SPEED	8,500 SFPM***			
TREAT 22	Available for Quantu	m (NQ) 32A, and 53A		

* 46 GRIT ONLY AVAILABLE IN .312 DIAMETER ** 5TG IS AVAILABLE IN /1 COMBINATION ONLY

Vitrified First Line (VFL) ID and Race Wheel availability encompasses over 1,000 wheel sizes and most abrasive types. These high-performance wheels are made-to-order and shipped within two weeks of receipt of your order.

Additional dimensions and grinding faces are available as made-to-order products with 4-week lead-times.

Vitrified Wheels For Steel Applications



^{***} SPEEDS UP TO 12,500 SFPM BY REQUEST AND SAFETY APPROVAL

Vitrified Wheels For Steel Applications CONTINUED

AVAILABILITY







HER:	
BRAND:	
TRADENIAME.	

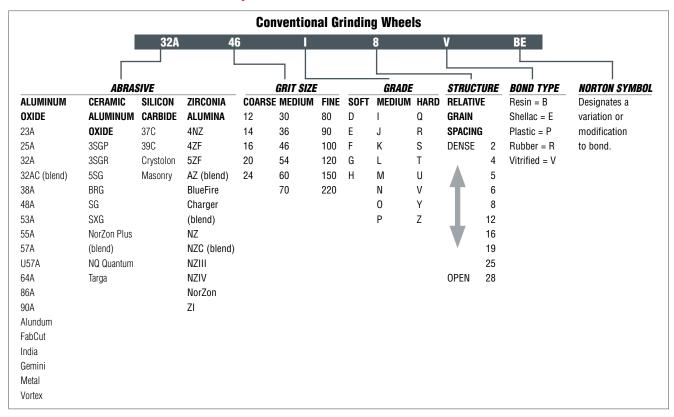
Norton

38A / GEMINI

		TRADENAME:	QUANTUM / NORTON SG		32A / 48A			38A / GEMINI	
		ABRASIVE:		c Alumina		num Oxide			inum Oxide
SIZE (D x T x H)		M MIN./STD. PKG.	. SPEC.	PART #	SPEC.	PART #	MIN./STD. PKG.	SPEC.	PART #
Type 05 Recessed 0	ne Side								
1-1/2 x 1 x 3/8 Recess 1/S 3/4 x 1/2	21,645	5/40			32A60-KVBE	66243427937			
2 x 1 x 3/8 Recess 1/S 3/4 x 1/2	16,235	5/40			32A60-KVBE	66243428329			
2 x 1-1/2 x 5/8 Recess 1/S 1 x 3/4	16,235	10/30			32A60-KVBE	66243428332			
7 x 3/4 x 1-1/4	3,600	1/10	5SG46-IVS	66252941976	32A46-HVBE	66252942209	1/10	38A46-IVBE	66252942222
Rec 1/S 2-3/4 x 1/4	3,600	1/10	5SG60-IVS	66252942312	32A46-IVBE	66252942211	1/10	38A60-IVBE	66252942225
	3,600	1/10			32A46-JVBE	66252942213			
	3,600	1/10			32A60-IVBE	66252942217			
	3,600	1/10			32A60-JVBE	66252942218			
	3,600	1/10			32A60-KVBE	66252942205	10110		
7 x 3/4 x 1-1/4 Rec 1/S 3 x 1/4	3,600 3,600						10/10 10/10	Gemini 46-J Gemini 60-J	66253246826 66253246830
7 x 1 x 1-1/4	3,600	1/10	3SGR46-HVP2	66252916228	32A46-GVBEP	66252942826			
Rec 1/S 2-3/4 x 1/2	3,600	1/10	5SG46-IVS	66252942318	32A46-HVBE	66252942688			
	3,600	1/10	5SG46-JVS	66252942427	32A46-HVBEP	66252942828			
	3,600	1/10	5SG60-JVS	66252942431	32A46-IVBE	66252942691			
	3,600	1/10			32A46-KVBE	66252942708			
	3,600	1/10			32A60-IVBE	66252942699			
	3,600 3,600	1/10 1/10			32A60-JVBE 32A60-KVBE	66252942701 66252942703			
	3,600	1/10			48A46-HVP2	66252916232			
7 x 1 x 1-1/4	3,600	1/10	5NQ46-IVS	66253350691	32A46-HVBE	66252942689	1/10	38A46-HVBE	66252942707
Rec 1/S 3 x 1/2	3,600	1/10	5SG46-IVS	66252901814	32A46-IVBE	66252942690	1/10	38A46-IVBE	66252942809
1160 1/0 0 X 1/2	3,600	1/10	5SG60-IVS	66252906907	32A60-IVBE	66252942686	1/10	38A46-KVBE	66252942793
	3,600	1/10	00000 110	00202300301	OZNOO IVDE	002023 12000	1/10	38A60-IVBE	66252942815
	3,600	1, 10					1/10	38A60-JVBE	66252942816
	3,600						1/10	38A60-KVBE	66252942817
	3,600						10/10	Gemini 46-H	66253246831
	3,600						10/10	Gemini 46-J	66253246835
	3,600						10/10	Gemini 60-J	66253246839
7 x 1-1/4 x 1-1/4	3,600	1/5			32A46-HVBE	66252942833			
Rec 1/S 2-3/4 x 5/8	3,600	1/5			32A60-IVBE	66252942859			
	3,600	1/5			32A60-JVBE	66252942835			
7 x 1-1/2 x 1-1/4	3,600	1/5			32A46-IVBE	66252942843			
Rec 1/S 2-3/4 x 3/4	3,600	1/5			32A60-IVBE	66252942844			
8 x 3/4 x 1-1/4	3,105	1/10			32A46-IVBE	66253044213			
Rec 1/S 3-1/4 x 1/4	0.405						10/10	Camini 40 II	00000040040
8 x 1 x 1-1/4 Rec 1/S 3 x 1/2	3,105 3,600						10/10 10/10	Gemini 46-H Gemini 46-J	66253246849 66253246850
8 x 1 x 1-1/4	3,105	1/10	5SG46-IVS	66253013543	32A46-IVBE	66253044790	10/10	Gellilli 40-J	00233240830
Rec 1/S 3-1/4 x 1/2	3,600	1/10	5SG46-JVS	66253003301	32A46-JVBE	66253044790			
1166 1/3 3-1/4 X 1/2	3,600	1/10	33040-373	00233003301	32A60-IVBE	66253044753			
	3,600	1/10			32A60-KVBE	66253044810			
10 x 3/4 x 2	2,485	1/-			32A60-JVBE	66253160189			
Rec Side A	2,100	.,			02/100 0102	00200100100			
5 x 3/16 Face Bev									
Side A 75 Deg									
From 1/8" Flat									
12 x 1-1/2 x 3 Rec 1/S 6 x 1/2	2,070	1/-			32A46-IVBE	66253263186			
12 x 1-1/2 x 5	•	1/-	3SGR46-HVP2	66253220904	32A46-HVBEP	66253263180	1/-	38A46-IVBE	66253263175
Rec 1/S 7-1/2 x 1/2	2,070	1/-	5SG46-GVSP	66253263127	32A46-IVBE	66253263166			
	2,070	1/-	5SG46-IVS	66253202883	32A46-JVBE	66253263169			
	2,010	17	000.01.0		027110 0102				
	2,070 2,070 2,070	1/- 1/-	5SG60-IVSP	66253263050	32A46-KVBE 32A60-KVBE	66253263170 66253263172			

^{• 12&}quot; TYPE 05 WHEEL MAXIMUM RPM: NORPOR VP2 WHEELS = 2,710; ALL OTHERS = 2,070

How to Read an Abrasive Product Specification

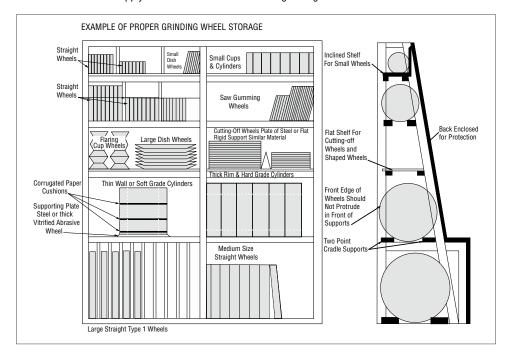


Shelf Life and Proper Storage of Grinding Wheels

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.