

VITRIFIED WHEELS

32AA

A Norton exclusive blend of TG, Norton's second generation ceramic aluminum oxide grain and 32A.



★ Made in U.S.A.

BETTER 32AA

FEATURES

- Advanced proprietary TG abrasive grain
- VTR bond system
- VTRP semi-porous bond

BENEFITS

- 2X more life than 32A; increased productivity
- Draws less power, free cutting, less burn, broad versatility
- Better part tolerance and form holding, across a broad range of materials and applications
- Freer cutting; less burn on wider contact areas

32A

Norton 32A is the benchmark in the toolroom. Its versatility and performance increase your productivity when compared to other aluminum oxide products.



★ Made in U.S.A.

BETTER 32A

FEATURES

- Sharp monocrystalline grain
- Proven VBE and VBEP (porous) bond technology

BENEFITS

- Outstanding form holding, free cutting
- Consistent wheel to wheel
- Excellent balance and form holding
- You choose your optimum porosity (see Vitrified Wheel Spec Check page T145)

38A

Norton 38A is the value-priced wheel for cool, fast tool reconditioning. This is the choice for light grinding applications on all tool steels.



★ Made in U.S.A.

GOOD 38A

FEATURES

- Friable abrasive grain
- Consistent quality

BENEFITS

- Cool and burn-free cutting
- Excellent balance and dimensional accuracy time after time

57A

The economical alternative for general purpose steel grinding.



★ Made in U.S.A.

57A

FEATURES

- Extremely durable aluminum oxide abrasive grain

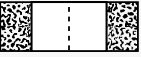
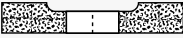
BENEFITS

- Excellent for steels and steel alloys
- Economical; ideal for numerous general purpose applications

VITRIFIED WHEELS





STEEL APPLICATIONS (CONTINUED)

For all types of tool steel grinding. See "Vitrified Wheels Spec Check" on page T145 for specification recommendations.

SIZE D X T X H	MAX. RPM	MIN./STD. PKG.	BEST		BETTER		MIN./STD. PKG.	GOOD		
			SPEC	UPC NO.	SPEC	UPC NO.		SPEC	UPC NO.	
TYPE 02 CYLINDER (CONTINUED) 										
18 X 5 RIM 1-1/2" (ME15536) TAPE WOUND	1,065	1/-			32A30-E12VCP	66253465142				
18 X 5 RIM 1-1/2" (ME52719) TAPE WOUND	1,170	1/-			23A30-G12VCP	66253465129				
18 X 5 RIM 1-1/2" (ME52719) TAPE WOUND INCLUDES STRIPS	1,170	1/-			23A30-F12VCP	66253465235				
20 X 5 RIM 1-3/4" (ME58559) TAPE WOUND INCLUDES STRIPS	1,050	1/-			23A30-G12VCP	69078665769				
TYPE 05 RECESSED ONE SIDE 										
6 X 1 X 1-1/4 REC 1/5 3 X 1/2	4,140						1/10	38A60-KVBE	66252838199	
7 X 3/4 X 1-1/4 REC 1/5 2-3/4 X 1/4	3,600	1/10	3SGP46-IVH 5SG46-IVS 5SG60-IVS	66252911704 66252941976 66252942312	32AA46-IVTR 32A46-GVBEP 32A46-HVBE 32A46-IVBE 32A46-JVBE 32A60-IVBE 32A60-JVBE 32A60-KVBE	66252938885 66252941958 66252942209 66252942211 66252942213 66252942217 66252942218 66252942205	1/10 10/10	38A46-IVBE 38A60-IVBE GLOBAL WHITE 46-KV GLOBAL WHITE 60-IV	66252942222 66252942225 66252911743 66252911744	
7 X 1 X 1-1/4 REC 1/5 2-3/4 X 1/2	3,600	1/10	5SG46-IVS 5SG46-JVS 5SG60-JVS 5SG60-KVS	66252942318 66252942427 66252942431 66252942432	32AA46-HVTRP 32AA46-IVTR 32A46-GVBEP 32A46-HVBEP 32A46-HVBE 32A46-IVBE 32A46-KVBE 32A60-GVBEP 32A60-HVBE 32A60-IVBE 32A60-JVBE 32A60-KVBE	66252906101 66252938887 66252942826 66252942828 66252942688 66252942691 66252942708 66252942800 66252942697 66252942699 66252942701 66252942703				
7 X 1 X 1-1/4 REC 1/5 3 X 1/2	3,600	1/10	5SG60-IVS	66252906907	32A46-GVBEP 32A46-HVBE 32A46-IVBE 32A46-KVBE 32A60-IVBE	66252942825 66252942689 66252942690 66252942696 66252942686	1/10 10/10	38A46-HVBE 38A46-IVBE 38A46-KVBE 38A60-IVBE 38A60-JVBE 38A60-KVBE 38A80-IVBE GLOBAL WHITE 46-GVP GLOBAL WHITE 46-HV GLOBAL WHITE 46-IV GLOBAL WHITE 60-IV	66252942707 66252942809 66252942793 66252942815 66252942816 66252942817 66252942794 66252911688 66252911686 66252911687 66252911690	
7 X 1 X 1-1/4 REC 1/5 4 X 1/2	3,600	1/10			32A46-HVBE	66252942770				
7 X 1-1/4 X 1-1/4 REC 1/5 2-3/4 X 5/8	3,600	1/5			32A46-HVBE 32A46-IVBE 32A60-IVBE 32A60-JVBE	66252942833 66252942834 66252942859 66252942835				
7 X 1-1/2 X 1-1/4 REC 1/5 2-3/4 X 3/4	3,600	1/5			32A46-IVBE 32A60-IVBE	66252942843 66252942844				
7 X 2 X 1-1/4 REC 1/5 2-3/4 X 1	3,600	1/5			32A46-HVBE	66252942873				
8 X 3/4 X 1-1/4 REC 1/5 3-1/4 X 1/4	3,105 3,600	1/10			32A46-IVBE 32A46-JVBE	66253044213 66253044212	1/10	38A46-HVBE	66253044305	

Refer to the "Diamond Tool" and "Dressing Sticks" sections for truing and dressing products.

SpecCheck

PRODUCTIVITY	DURABILITY	ABRASIVE	GRIT	GRADE	BOND	POROUS BOND	DRESSING TOOL
Maximum  Standard	More Durable  More Friable	5SG	46 (Coarse)  220 (Fine)	F (Soft)  Q (Hard)	VS	VSP	SG Tool (BCSG)
		3SGP			VH	VSP	SG Tool (BCSG)
		32AA			VTR	VTRP	SG Tool (BCSG)
		32A			VBE	VBEP	Standard Tool
		38A			V/VBE	VBEP	Standard Tool

HOW TO USE THIS SPEC CHECK:

Abrasive: Select abrasive type based on required performance, stock removal rate and material type.

Grit Size: Select the grit size depending on finish required and stock removal rate needed.

Grade: Selection based on bond selected and contact area.*

Bond: Select the appropriate bond based on the abrasive selected and the contact area.*

ABRASIVE:

SG: Norton seeded gel abrasives are exceptionally durable and cool cutting on all high speed tool steels, especially the most difficult to grind. Norton SG abrasives should be the abrasive of choice when the highest productivity is your objective

5SG: The most durable SG blend available. For use on the most demanding applications for the highest level of performance on moderate to very heavy stock removal applications.

3SGP: An economical blend that delivers superior life and cut rate when compared to conventional abrasives. For use on demanding applications where the full performance and value of 5SG cannot be optimized.

32AA: 32A abrasive blended with TG; Norton's second generation ceramic abrasive, is more durable than 32A. It can offer a cooler cut and higher stock removal rate with up to twice the life over 32A. For all tool steels requiring moderate to heavy stock removal rates.

32A: A strong, sharp, very versatile abrasive for a wide range of applications. For all tool steels requiring moderate stock removal rates.

38A: The most friable abrasive for light grinding applications on all tool steels. Offers outstanding coolness of cut in light to medium stock removal applications.

57A: Extremely durable abrasive used for heavy stock removal on all carbon steels.

Global White: Imported friable white aluminum oxide abrasive grain for use on light grinding of heat sensitive tool steels.

37C: Sharp silicon carbide abrasive used on stainless steels, cast irons, nonferrous metals, and non-metallic materials (stone, marble, rubber, ceramic and glass).

39C: Extremely sharp, high purity silicon carbide abrasive used on metal matrix composites, titanium, plasma sprayed materials and cemented carbide tipped tools.

Global Black: Imported sharp silicon carbide abrasive grain for use on nonferrous steels and the dressing of diamond & CBN wheels.

GRIT:

46: For general purpose roughing, finishes rougher than 32 Ra.

60: Typically for commercial finish, 32 Ra or better.

80: Fine finish, 20 Ra or better, corner/form holding applications.

BOND:

VS & VH: 5SG & 3SGP (Blue): High stock removal; narrow/medium* contact area; roughing/finishing; less burn; cool cutting.

VSP: 5SG & 3SGP (Blue): Porous bond; high stock removal; medium/wide* contact area; cool cutting; less burn than VS; high chip clearance.

VTR: 32AA (Gray): Designed for versatility and engineered for a wide range of materials and applications; for narrow/medium* contact area.

VTRP: 32AA (Gray): Semi-porous bond; medium/wide* contact area; cool cutting; less burn than VTR; high chip clearance; improved form holding; high stock removal.

VBE: 32A (Gray), 38A (White) and 57A (Dark Gray): General purpose; narrow/medium* contact area; versatile; economical.

VBEP: 32A (Gray) and 38A (White): Porous bond; medium/wide* contact area; cool cutting; less burn than VBE; high chip clearance; high stock removal.

V: 38A (Orange): For fine grit; form/corner holding applications; narrow* contact area.

VK: 37C (Black) and 39C (Green). Designed specifically for silicon carbide abrasives; medium to narrow area of contact.

GRADE:

I-K: VS bond – "I" grade to start for general purpose; narrow/medium* contact area.

K, L: VS bond – for narrow* contact area or form/corner holding applications.

F-I: VSP bond – "G" grade to start; medium/wide* contact area.

I-K: VTR bond – "I" grade to start, general purpose; narrow/medium* contact area.

K, L: VTR bond – For narrow* contact area or form/corner holding applications.

G-J: VTRP bond – "H" grade to start; medium/wide* contact area.

H-K: VBE bond – "I" grade to start, general purpose; narrow/medium* contact area.

K, L: VBE bond – narrow* contact area; corner holding applications.

M-Q: VBE bond - Bench and Pedestal applications. Grit size will determine grade.

F-H: VBEP bond – "G" grade to start; medium/wide* contact area.

I-K: VK bond - "I" grade to start; general purpose; narrow to medium* contact area.

*DEFINITIONS OF CONTACT AREA:

Wide: The contact area of the grind is greater than 50% of the wheel width or over 1/2" wide.

Medium: The contact area of the grind is 25%–50% of the wheel width or 1/4"–1/2" wide.

Narrow: The contact area of the grind is less than 25% of the wheel width or less than 1/4" wide.

For additional information, see the "Vitrified Wheels Troubleshooting Guide".

Refer to "Grinding Wheel Selection Guide" poster, form # 7505. This poster will help you determine grinding wheel specifications and common solutions to grinding problems. Call 1 800 446-1119 for a copy.