

SURFACE GRINDING SEGMENTS AND WHEELS

Surface grinding segments and wheels are generally used to grind flat stock or flat surfaces within a workpiece. The segment or wheel moves over the workpiece in a flat plane or vice versa. Applications can vary from heavy, rapid stock removal to precision tolerance operations.

TYPICAL INDUSTRIES

- Automotive - produce large molds and dies
- Steel - produce flat stock
- Foundries
- Knives, blades, cutlery
- Independent grinding shops



SEGMENTS

TYPICAL SEGMENT APPLICATIONS

- Vertical spindle surface grinding

BEST SG Ceramic Aluminum Oxide Abrasives	
FEATURES	BENEFITS
<ul style="list-style-type: none"> • High performance seeded gel ceramic abrasive • Self-sharpening abrasive • High performance bond 	<ul style="list-style-type: none"> • Fast stock removal, maximum productivity • Cool cutting, minimal dressing needed • Long segment life
5SG	
<ul style="list-style-type: none"> • Highest ceramic content • Sharpest blend 	<ul style="list-style-type: none"> • Best for grinding hard materials • Fastest stock removal
3SGP	
<ul style="list-style-type: none"> • Aggressive, ceramic blend 	<ul style="list-style-type: none"> • Very durable and sharp • Best for grinding mild steels
BETTER Charger and 86A Abrasive	
FEATURES	BENEFITS
CHARGER	
<ul style="list-style-type: none"> • Monocrystalline aluminum oxide abrasive 	<ul style="list-style-type: none"> • High performance, free cutting abrasive • Up to 33% greater performance than 86A
86A	
<ul style="list-style-type: none"> • Sharp aluminum oxide abrasive 	<ul style="list-style-type: none"> • Versatile, consistent performance
GOOD Pacesetter	
FEATURES	BENEFITS
<ul style="list-style-type: none"> • Quality aluminum oxide abrasive blend 	<ul style="list-style-type: none"> • Grinds a wide variety of materials • Excellent value for general purpose use

TechTips

- Choose 24 and 30 grit for soft and mild steels.
- Choose 36 and 46 grit for hard steels.
- Choose as coarse a grit size as possible in order to remove stock as quickly as possible (in big chips).
- To maximize production, choose the hardest grade possible that will not overload the machine.



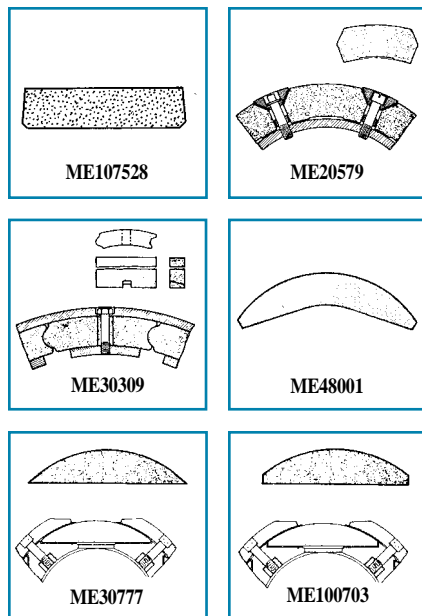
It is the user's responsibility to refer to and comply with ANSI B7.1

SURFACE GRINDING SEGMENTS AND WHEELS

SEGMENTS

WIDTH	THICK.	HEIGHT	BLUEPRINT NO.	STD. PKG.	BEST		BETTER		GOOD	
					SPEC	UPC NO.	SPEC	UPC NO.	SPEC	UPC NO.
4-3/16	2	5-1/2	ME107528C	9					PACESETTER 46E PACESETTER 46F	61463639796 61463639798
5	1-1/2	6	ME20579	8	3SGP30-G12VSP 5SG30-G12VSP	61463604490 61463650413	86A30-F12VBEP 86A30-G12VBEP CHARGER 24-G CHARGER 30-F CHARGER 30-G	61463650273 61463650275 61463635150 61463635115 61463635116	PACESETTER 24E PACESETTER 24F PACESETTER 24G PACESETTER 30E PACESETTER 30F PACESETTER 30G	61463615874 61463615875 61463615876 61463615807 61463615808 61463615809
6-13/16	1-1/2	6	ME30309	8					PACESETTER 24F PACESETTER 30F	61463615878 61463615810
11-1/16	2-1/8	6	ME48001	5					PACESETTER 24F PACESETTER 30F	61463615883 61463615814
11-1/4	2-1/4	6	ME30777	5	3SGP30-E12VSP 3SGP30-F12VSP 3SGP30-G12VSP 5SG30-E12VSP 5SG30-F12VSP 5SG30-G12VSP 5SG36-G12VSP	61463604646 61463604039 61463604522 61463650424 61463650417 61463650419 61463650421	86A24-E12VBEP 86A24-G12VBEP 86A30-E12VBEP 86A30-F12VBEP 86A30-G12VBEP 86A36-E12VBEP 86A46-D12VBEP CHARGER 24-E CHARGER 24-F CHARGER 24-G CHARGER 30-E CHARGER 30-F CHARGER 30-G CHARGER 36-E CHARGER 46-D	61463650279 61463650282 61463650285 61463650287 61463650289 61463650291 61463650442 61463635109 61463635151 61463635110 61463635111 61463635152 61463635112 61463635153 61463635113	PACESETTER 24E PACESETTER 24F PACESETTER 24G PACESETTER 30E PACESETTER 30F PACESETTER 30G	61463615879 61463615881 61463615882 61463615811 61463615812 61463615813
11-1/4	3	6	ME100703A	4					PACESETTER 24E PACESETTER 24F	61463639799 61463639800
11-1/4	2-1/4	8	ME30777	5			86A24-G12VBEP CHARGER 24-G	61463650293 61463635114	PACESETTER 24E PACESETTER 24F	61463625662 61463625663
11-1/4	3	8	ME100703B	4	3SGP30-F12VSP 3SGP30-G12VSP	61463604720 61463615471	86A30-E12VBEP 86A30-G12VBEP CHARGER 30-E CHARGER 30-F CHARGER 30-G	61463650301 61463650304 61463635117 61463635119 61463635120	PACESETTER 24E PACESETTER 24F PACESETTER 24G PACESETTER 30E PACESETTER 30F PACESETTER 30G	61463615884 61463615885 61463615886 61463615815 61463615816 61463615817
		1-5/8		10	VITRIFIED BURR REMOVER	61463650268*				

*MINIMUM QUANTITY = 2



SpecCheck



TROUBLESHOOTING GUIDE

PROBLEM	CORRECTION
Segment acting too hard	Increase rate of downfeed Increase table rotation speed (watch amp-meter) Dress more frequently Consider reducing area of table load
Segment acting too soft	Decrease rate of downfeed Decrease table rotation speed Check for abnormal machine vibration
Glazing and/or burning	Choose a softer grade Increase table speed (watch amp-meter)

SURFACE GRINDING SEGMENTS AND WHEELS

SURFACE GRINDING WHEELS

TYPICAL APPLICATIONS

- Horizontal spindle surface grinding



BETTER	32A Performance Abrasive
FEATURES	BENEFITS
<ul style="list-style-type: none"> • The original monocrystalline performance aluminum oxide abrasive 	<ul style="list-style-type: none"> • Aggressive, yet cool cutting
GOOD	38A, 53A Value Abrasives
FEATURES	BENEFITS
<ul style="list-style-type: none"> • 38A – Sharp, friable, white aluminum oxide abrasive • 53A – General purpose blend of light and dark aluminum oxide abrasive 	<ul style="list-style-type: none"> • Very free and cool cutting • Best for hard materials or thin, heat sensitive workpieces • Durable • Economical; can be used for light to heavy stock removal
GOOD	Global – The Economical Choice
FEATURES	BENEFITS
<ul style="list-style-type: none"> • Made in ISO 9001 certified Norton plants worldwide • White, friable aluminum oxide abrasive • Versatile • Large stock availability 	<ul style="list-style-type: none"> • Consistent quality, wheel-to-wheel • Low initial cost per wheel • For light grinding; cool, fast cutting • For all steels including hard and heat-sensitive tool steels • Perfect where profile/shape and material change often • Easy to specify and order


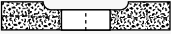

SpecCheck

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	CORRECTION
Workpiece not flat or parallel	Too heavy a cut Burning of the workpiece Dirty magnetic chuck	Take lighter cuts, especially on finishing pass Choose a softer grade wheel Clean magnetic chuck before final grind
Scratching of workpiece	Dirty coolant Wheel too soft Wheel too coarse	Clean coolant tank or replace grinding fluid Choose harder grade and/or finer grit wheel Dress wheel "closed" before final pass
Burning or checking of workpiece	Wheel too hard Wheel too hard Table speed too slow Wheel dressed too fine Depth of cut too deep	Choose softer grade and/or coarser grit size wheel Choose more open structure wheel Increase table speed (watch amp-meter) Dress wheel coarser, more "open" Take lighter cuts and dress more frequently
Chatter marks on workpiece	Worn spindle bearings Wheel out of truth Poorly clamped wheel Glazed face of wheel Wheel too hard	Check and correct for truth and end play Redress wheel and check mounting Check tightness of mounting nuts Redress wheel with sharp dressing tool Use softer wheel, perhaps a more open structured wheel
Wheel loading or glazing	Wheel too fine Wheel too finely dressed Depth of cut too small Poor coolant quality Wheel structure too closed Diamond dressing tool worn	Use coarser grit or softer grade wheel Dress wheel very open Increase feed and traverse speed Change coolant or use high detergent type Choose a more open structure wheel Replace diamond and dress coarse (open)

SURFACE GRINDING SEGMENTS AND WHEELS

SURFACE GRINDING WHEELS

SIZE D X T X H	BETTER		GOOD	
	SPEC	UPC NO.	SPEC	UPC NO.
TYPE 01 STRAIGHT 				
20 X 1 X 8			GLOBAL 46-GVP GLOBAL 46-HV GLOBAL 60-JV	69078619645 69078619362 69078619585
20 X 1 X 10			GLOBAL 36-JV GLOBAL 46-GVP GLOBAL 46-HV GLOBAL 60-JV	69078619592 69078619641 69078619593 69078619594
20 X 1-1/2 X 10			GLOBAL 36-JV GLOBAL 46-GVP GLOBAL 46-HV GLOBAL 60-JV	69078619606 69078619652 69078619607 69078619608
20 X 2 X 10			GLOBAL 36-JV GLOBAL 36-JVP GLOBAL 46-GVP GLOBAL 46-HV GLOBAL 60-JV	69078619361 69078619658 69078619660 69078619635 69078619610
TYPE 05 RECESSED ONE SIDE 				
20 X 1-1/2 X 8 REC 1 SIDE 11-1/2 X 1/2			GLOBAL 46-GVP GLOBAL 46-HV GLOBAL 60-JV	69078619654 69078619595 69078619601
TYPE 07 RECESSED TWO SIDES 				
20 X 2 X 8 REC 2 SIDES 11-1/2 X 1/2	32A46-18VBE	69078665537	38A46-18VBE 53A46-18VBE GLOBAL 36-JVP GLOBAL 46-GVP GLOBAL 60-JV	69078619507 69078610272 69078619656 69078619657 69078619609
20 X 3 X 8 REC 2 SIDES 11-1/4 X 1/2	23A46-18VBE 32A46-18VBE	69078665582 69078665686		
20 X 3 X 8 REC 2 SIDES 11-1/2 X 1/2			GLOBAL 36-JVP GLOBAL 46-GVP GLOBAL 46-HV	69078619664 69078619668 69078619639
20 X 3 X 10 REC 2 SIDES 12-1/4 X 5/8	32A46-18VBE	69078665575	38A46-18VBE 53A46-18VBE	69078618270 69078611196
20 X 3 X 10 REC SIDE A 12-1/4 X 1 REC SIDE B 12-1/4 X 1/2			GLOBAL 36-JVP GLOBAL 46-GVP GLOBAL 46-HV	69078619673 69078619676 69078619649
20 X 4 X 8 REC 2 SIDES 11-1/2 X 1/2			GLOBAL 36-JVP GLOBAL 46-EVP GLOBAL 46-GVP GLOBAL 46-HV	69078619677 69078619365 69078619678 69078619642
20 X 4 X 10 REC A SIDE 12-1/4 X 1-1/4 REC B SIDE 12-1/4 X 3/4			GLOBAL 36-JVP GLOBAL 46-EVP GLOBAL 46-GVP GLOBAL 46-HV	69078619679 69078619681 69078619686 69078619650
20 X 6 X 10 REC A SIDE 12-1/4 X 2 REC B SIDE 12-1/4 X 1	32A46-18VBE	69078665854	38A46-18VBE 53A46-18VBE 53A36-18V127 53A46-G19VCP GLOBAL 36-JVP GLOBAL 46-GVP GLOBAL 46-HV	69078602976 69078603449 69078666695 69078666344 69078619629 69078619625 69078619643
20 X 6 X 12 REC 2 SIDES 14-1/4 X 1			GLOBAL 36-JVP GLOBAL 46-GVP GLOBAL 46-HV	69078619623 69078619622 69078619615

STANDARD PACKAGE = 1 WHEEL