

## PREMIER RED REINFORCED PORTABLE SNAGGING WHEELS

Best Tier / Zirconia Alumina Abrasive



Use when grinding with a hand-held machine. Best choice for grinding steel, steel alloys and cast iron.

FEATURES	BENEFITS
• Premium zirconia alumina abrasive	• Fast cut rate
	• 3 times the life of aluminum oxide
	• Greatest productivity
• High-performance resin bond	• Free cutting action
	• Long life
• High-strength, reinforced construction	• Resists breakage

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 01 – FOR PORTABLE GRINDERS</b>				
05539509169	6 x 1 x 5/8	2ZA14-RBF64	8,000	5
05539509167	8 x 1 x 5/8	2ZA14-RBF64	6,000	5
Minimum quantity = box quantity.				



TYPE 01

## CARBO GOLD REINFORCED PORTABLE SNAGGING WHEELS

Good Tier / Aluminum Oxide Abrasive



Use when grinding with a hand-held machine. The economical choice for grinding steel, steel alloys and cast iron.

FEATURES	BENEFITS
• Aluminum oxide abrasive	• Fast cut rate
• Resin bond	• Free cutting action
	• Long life
• High-strength, reinforced construction	• Resists breakage

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 01 – FOR PORTABLE GRINDERS</b>				
05539507347	8 x 1 x 5/8	GA16-P5BF5	4,540	5
Minimum quantity = box quantity.				



TYPE 01

## REINFORCED PORTABLE SNAGGING WHEELS

Good Tier / Aluminum Oxide Abrasive



Use when grinding with a hand-held machine. Ideal for grinding parting lines, gates and risers.

FEATURES	BENEFITS
• Aluminum oxide abrasive	• Fast cut rate and long life
• Reinforced	• Durable, yet cool cutting

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 01 – FOR PORTABLE GRINDERS</b>				
05539506618	3 x 1/2 x 3/8	GA24-PBFF	18,080	10
Minimum quantity = box quantity.				



TYPE 01

## PREMIER RED PORTABLE SNAGGING WHEELS

Best Tier / Zirconia Alumina



Best choice for grinding steel, steel alloys and cast iron. Used for grinding weld seams, cleaning metal before welding, grinding off fins and parting lines, smoothing surfaces on castings, and smoothing surfaces before painting or plating.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Premium zirconia alumina abrasive</li> <li>High-performance resin bond</li> </ul>	<ul style="list-style-type: none"> <li>Fast cut rate</li> <li>3 times the life of aluminum oxide abrasive; greatest productivity</li> <li>Free cutting action</li> </ul>

### FULL STEEL BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539500694	6 / 4-13/16 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	2ZA16-QB64	6,000	5



TYPE 11

### STANDARD BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539563938	4 / 3 x 2 x 5/8-11 Rim 3/4, Back 3/4	2ZA16-QB64	9,070	10
05539509156	5 / 3-3/4 x 2 x 5/8-11 Rim 1, Back 3/4	2ZA16-QB64	7,260	5
05539508397	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	2ZA14-RB64	6,000	5
05539509155	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	2ZA16-PB64	6,000	5
05539507176	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	2ZA16-QB64	6,000	5

Minimum quantity = box quantity.

## CARBO GOLD PORTABLE SNAGGING WHEELS

Good Tier / Aluminum Oxide



Economical choice for grinding steel, steel alloys and all ferrous metals.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Quality aluminum oxide abrasive</li> <li>Resin bond</li> </ul>	<ul style="list-style-type: none"> <li>Fast cut rate</li> <li>Free cutting action</li> </ul>

### FULL STEEL BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539507182	6 / 4-13/16 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	A16-PB5	6,000	5



TYPE 11

### STANDARD BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539509166	4 / 3 x 2 x 5/8-11 Rim 3/4, Back 3/4	A16-PB5	9,070	10
05539509162	5 / 3-3/4 x 2 x 5/8-11 Rim 1, Back 3/4	A24-PB5	7,260	5
05539509160	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	A16-PB5	6,000	5
05539563989	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	A16-QB5	6,000	5
05539509159	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	A24-PB5	6,000	5

Minimum quantity = box quantity.

## PREMIER RED PORTABLE SNAGGING WHEELS

Best Tier / Zirconia Alumina/Silicon Carbide Blend



Best choice for grinding dirty, scale-covered castings, aluminum and other soft metal castings.

### FEATURES

- Premium zirconia alumina/silicon carbide abrasive blend
- High performance resin bond

### BENEFITS

- Fast cut rate
- 3 times the life of aluminum oxide/silicon carbide abrasive blend
- Free cutting action

### STANDARD BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR SOFT METALS</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539507177	6 / 4-3/4 x 2 x 5/8-11Rim 1-1/2, Back 3/4	2ZC16-QB64	6,000	5
Minimum quantity = box quantity.				



TYPE 11

## CARBO GOLD PORTABLE SNAGGING WHEELS

Good Tier / Aluminum Oxide/Silicon Carbide Blend



Economical choice for grinding dirty, scale-covered castings, aluminum and other soft metals.

### FEATURES

- Quality aluminum oxide/ silicon carbide abrasive blend
- Resin bond

### BENEFITS

- Fast cut rate
- Free cutting action

### FULL STEEL BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR SOFT METALS</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539507183	6 / 4-13/16 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	CGA16-QB5	6,000	5



TYPE 11

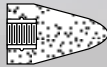
### STANDARD BACK BUSHING

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR SOFT METALS</b>				
<b>TYPE 11 – FOR PORTABLE CUP GRINDERS</b>				
05539507181	6 / 4-3/4 x 2 x 5/8-11 Rim 1-1/2, Back 3/4	CGA16-QB5	6,000	5
Minimum quantity = box quantity.				

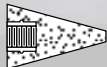
**PORTABLE SNAGGING CONES AND PLUGS**



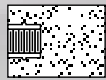
**Cone and Plug Shapes**



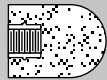
TYPE 16



TYPE 17



TYPE 18



TYPE 18R

**PREMIER RED PORTABLE SNAGGING CONES AND PLUGS**

*Best Tier / Zirconia Alumina*



The best choice for grinding steel, steel alloys, and cast iron, for removing burrs and flash, and finishing any type of metal surface in a confined area.

FEATURES	BENEFITS
<ul style="list-style-type: none"><li>Premium zirconia alumina abrasive</li></ul>	<ul style="list-style-type: none"><li>Fastest cut rate</li><li>3X the life of aluminum oxide abrasive: greatest productivity</li></ul>
<ul style="list-style-type: none"><li>High-performance resin bond</li></ul>	<ul style="list-style-type: none"><li>Free cutting action</li></ul>

PART #	SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 16 CONES (ROUND END)</b>				
05539520886	2 x 3 x 5/8-11	2ZA20-R	18,145	10
05539520887	2-3/4 x 3-1/2 x 5/8-11	2ZA20-R	13,195	10
<b>TYPE 18 PLUGS (SQUARE END)</b>				
05539520889	2 x 3 x 5/8-11	2ZA20-R	18,145	10
<b>TYPE 18R PLUGS (ROUND END)</b>				
05539520893	1-1/2 x 3 x 5/8-11	2ZA20-R	24,190	10
05539520891	2 x 3 x 5/8-11	2ZA20-R	18,145	10
<b>Minimum quantity = box quantity</b>				



## PORTABLE SNAGGING CONES AND PLUGS

**Better Tier / Zirconia Alumina/Aluminum Oxide Blend**

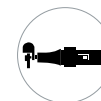
**CARBO™**



Excellent for grinding steel, steel alloys and cast iron, for removing burrs and flash and finishing any type of metal surface in a confined area.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Performance, zirconia alumina/aluminum oxide abrasive blend</li> <li>Resin bond</li> </ul>	<ul style="list-style-type: none"> <li>Fast cut rate</li> <li>Easily grinds scale-covered parts</li> <li>Long life</li> </ul>

PART #	SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 16 CONES (ROUND END)</b>				
05539563710	1-1/2 x 3 x 3/8-24	3ZA24-R	24,190	10
05539563711	1-1/2 x 3 x 5/8-11	3ZA20-R	24,190	10



## PORTABLE SNAGGING CONES AND PLUGS

**Good Tier / Aluminum Oxide**

**CARBO™**



The economical choice for grinding steel or iron castings, removing burrs and flash and finishing metal surfaces in confined areas.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Quality, aluminum oxide abrasive</li> <li>Resin bond</li> </ul>	<ul style="list-style-type: none"> <li>Fast stock removal</li> <li>Free cutting action</li> </ul>

PART #	SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
<b>TYPE 16 CONES (ROUND END)</b>				
05539509154	1-1/2 x 3 x 5/8-11	A24-R	24,190	10
05539564070	2 x 3 x 3/8-24	A24-R	18,145	10
05539509153	2 x 3 x 5/8-11	A24-R	18,145	10
05539509152	2-3/4 x 3-1/2 x 5/8-11	A24-R	13,195	10
<b>TYPE 17 CONES (SQUARE END)</b>				
05539509150	1-1/2 / 1/2 x 3 x 3/8-24	A24-R	24,190	10
05539509149	2 / 1/2 x 3 x 5/8-11	A24-R	18,145	10
<b>TYPE 18 PLUGS (SQUARE END)</b>				
05539509145	1-1/2 x 2-1/2 x 5/8-11	A24-R	24,190	10
05539509144	1-1/2 x 3 x 3/8-24	A24-R	24,190	10
05539509143	1-1/2 x 3 x 5/8-11	A24-R	24,190	10
05539509142	2 x 3 x 3/8-24	A24-R	18,145	10
05539509141	2 x 3 x 5/8-11	A24-R	18,145	10
05539509139	3 x 4 x 5/8-11	A24-R	12,095	10
<b>TYPE 18R PLUGS (ROUND END)</b>				
05539509138	1-1/2 x 3 x 3/8-24	A24-R	24,190	10
05539509137	1-1/2 x 3 x 5/8-11	A24-R	24,190	10
05539509136	2 x 3 x 5/8-11	A24-R	18,145	10
05539509134	3 x 4 x 5/8-11	A24-R	12,095	10
<b>Minimum quantity = box quantity.</b>				



## PREMIER RED FOUNDRY FLOORSTAND SNAGGING WHEELS

Better Tier / Zirconia Alumina/Aluminum Oxide Blend



Castings small enough to be carried to the grinder are ground using a floorstand wheel. Ideal for grinding all types of metals, cast iron and cast steel.

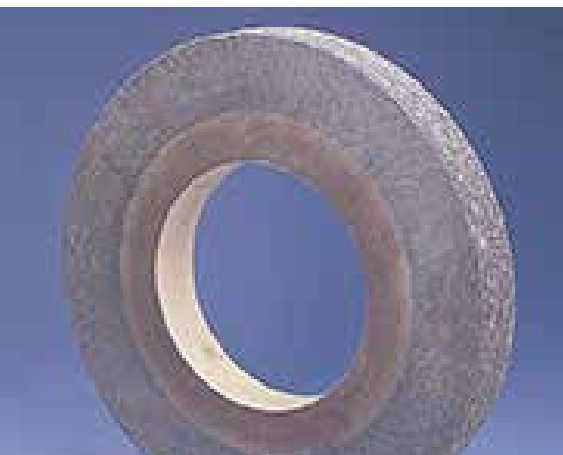
FEATURES	BENEFITS
• Performance zirconia alumina/aluminum oxide abrasive blend	• Fast cut rate
• Resin bond	• Easily grinds scale-covered parts
• High-strength, safety web construction	• Extended wheel life
• Convenient 10 wheels/pallet packaging available	• Resists breakage
	• Economical; environmentally-friendly
	• Easy storage and handling

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
05539562953	30 x 2 x 12	3AZA14-SBF68	1,595	1
05539562952	30 x 2 x 12	3AZA16-QBF68	1,595	1
<b>SPECIAL PALLET PACK OF 10 WHEELS</b>				
05539563987	30 x 2 x 12	3AZA16-QBF68	1,595	10
<b>Minimum quantity = box quantity.</b>				

## FOUNDRY FLOORSTAND SNAGGING WHEELS

Good Tier / Zirconia Alumina/Aluminum Oxide Blend

CARBO™



Castings small enough to be carried to the grinder are ground using a floorstand wheel. The choice for medium- to low-pressure cast iron and metal applications - when initial-price is the main purchasing consideration.

FEATURES	BENEFITS
• Unique zirconia alumina/aluminum oxide abrasive blend	• Competitive performance/ price ratio
• Resin bond	• Ideal for medium to low pressure applications
• High-strength, safety web construction	• Long life
	• Resists breakage

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR IRON/STEEL/METAL</b>				
05539563988	30 x 2 x 12	AZ All Purpose	1,595	1
<b>Minimum quantity = box quantity.</b>				

## TOOL POST WHEELS

Good Tier / Aluminum Oxide

CARBO™



Tool post wheels provide the first step in reconditioning heavily damaged high speed tool steel on post grinders and universal attachments on cylindrical grinders.

FEATURES	BENEFITS
• Aluminum oxide abrasive	• Tough and durable, yet cool cutting
• Resin bond	• High-strength and long life

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR STEEL/METAL</b>				
<b>TYPE 01 - FOR TOOL POST GRINDERS</b>				
05539509907	2 x 1/2 x 3/8	A36-P5B6	18,145	10
<b>Minimum quantity = box quantity.</b>				



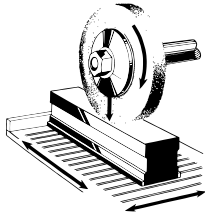


**TOOLROOM GRINDING APPLICATIONS**

Toolrooms are found in almost every manufacturing plant throughout the country. They may be called by other names such as machine shops, maintenance shops, or repair shops, however the work done is virtually the same. Toolroom grinding involves the production, maintenance, and repair of cutting tools and machinery parts used in all types of manufacturing operations.

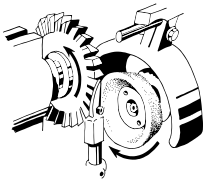
**Surface Grinding**

The grinding of flat, contoured or angular surfaces on a workpiece which is passed in a horizontal plane against a revolving grinding wheel. Surface grinding applications range from heavy, rapid stock removal operations to precision contouring.

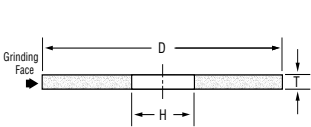


**Tool and Cutter Grinding**

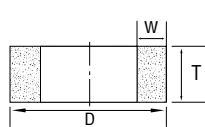
The grinding or resharpenering of milling cutters, reamers, drills, or end mills for the purpose of restoring keen cutting edges or exact cutting angles.



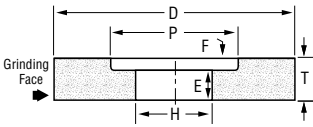
**WHEEL SHAPES**



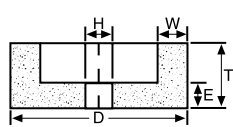
TYPE 01 STRAIGHT



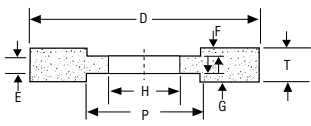
TYPE 02 CYLINDER



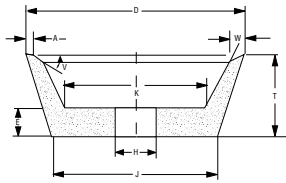
TYPE 05 RECESSED ONE SIDE



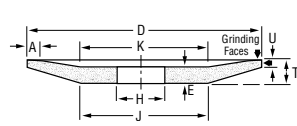
TYPE 06 STRAIGHT CUP



TYPE 07 RECESSED TWO SIDES



TYPE 11 FLARING CUP



TYPE 12 DISH



TYPE 37

### TOOLROOM BASICS SELECTION GUIDE

PRODUCTIVITY	DURABILITY	ABRASIVE	COLOR	GRIT SIZE	GRADE	NARROW CONTACT FORM HOLDING BOND	MEDIUM/WIDE CONTACT AREA POROUS BOND	DRESSING TOOL
Highest	More Durable	Medalist	Blue	46 (Coarse)	E (Soft)	VL	VLP	SG Tool
↑ ↓	↑ ↓	Medalist R	Purple	↑ ↓	↑ ↓	—	VPP	SG Tool
		32AR	Gray/Purple			V40	V40P	Conventional Tool
		AR	Ruby			V40	VPP	Conventional Tool
		PA	Pink			V40	VPP	Conventional Tool
Standard	More Friable	AA	White	120 (Fine)	P (Hard)	V40	V40P, VPP	Conventional Tool

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

**Grit Size:** Select the grit size depending on finish required, stock removal rate needed, and corner/form holding requirements.

**Grade:** Select the grade based on contact area\*, and heat sensitivity/thickness of material to be ground.

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

#### GRIT Selection

TEST GRIT	REQUIREMENTS	FINISH	MINIMUM CORNER RADIUS
46	General purpose	32 Ra and rougher	0.020"
60	Commercial finish	32 Ra and better	0.016"
80, 100	Fine finish	20 Ra and better	0.0105"
120	Very fine finish	10 Ra and better	0.006"

#### GRADE/BOND SELECTION

GENERAL CONDITIONS AND NEEDS	NORMAL GRADE RANGE	STARTING GRADE	BOND
Narrow* contact area or form holding	K - L	K	VL, V40
General surface grinding	H - K	J	VL, V40
Medium/wide* contact area, cooler grind	F - H	H	VLP, VPP, V40P

**\*Definitions of Contact Area:**

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

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

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

### TOOLROOM TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES	CORRECTION
Wheel corner breakdown	Poor wheel dressing Wheel too coarse Wheel too soft Worn machine bearings Wrong wheel structure	Dress wheel finer Use finer grit Use harder grade Check for run-out and correct Use non-porous wheel
Burning of workpiece	Worn dressing tool Poor coolant flow Wheel acting hard Work speed too slow Infeed too fast	Rotate or replace dressing tool Increase/direct coolant flow to contact area Dress wheel coarser, use softer grade wheel or use a porous wheel Increase work speed Reduce stock removed per pass or upgrade to Medalist or 32AR
Poor surface finish	Poor wheel dressing Dirty coolant Wheel too coarse Wheel too hard	Redress more frequently or decrease dress traverse rate Filter coolant or replace with new Use finer grit Use softer grade wheels

**NEW! TO MAXIMIZE THE PERFORMANCE OF TOOLROOM WHEELS SEE THE NEW CARBORUNDUM STATIONARY DIAMOND DRESSING TOOLS ON PAGE 156-157.**

### TOOLROOM WHEEL COMPETITIVE CROSS REFERENCE

CARBORUNDUM	CAMEL	CINCINNATI	RADIAC
<b>32AR</b>	32A	4A, 12A, 29A, 32A	32A, WRA
<b>AA</b>	83A, WA, AZ (Blue)	9A, 10A, 11A, 82A	WA, 9A
<b>AR</b>	—	—	RA
<b>GC</b>	—	5C	GC
<b>Medalist, Medalist R</b>	AS3	3MSB	7BP, 8BP
<b>PA</b>	PA	12A	RAA

### TOOLROOM WHEEL STARTING RECOMMENDATIONS BY MATERIAL/APPLICATION

APPLICATION/MATERIAL	PERFORMANCE/PRODUCTIVITY								
	NARROW CONTACT AREA			MEDIUM CONTACT AREA			WIDE CONTACT AREA		
	BEST	BETTER	GOOD	BEST	BETTER	GOOD	BEST	BETTER	GOOD
<b>TOOL RESHARPENING</b>									
<b>HEAVY STOCK REMOVAL (&gt; .004)</b>									
HSS & Tool Steel RC 50-68	Medalist46-KVL	32AR46-KV40	AA46-KV40	Medalist46-JVL	32AR46-JV40	AA46-JV40	Medalist46-GVLP	32AR46-GV40P	AA46-Hv40
<b>MODERATE STOCK REMOVAL (.002 - .004)</b>									
HSS & Tool Steel RC 50-68	Medalist60-KVL	32AR60-KV40	AA60-KV40	Medalist60-JVL	32AR60-JV40	AA60-JV40	Medalist60-GVLP	32A60-HV40P	AA60-Hv40
Carbide	—	—	GC60-IVGC	—	—	GC60-IVGC	—	—	GC60-IVGC
<b>SURFACE GRINDING</b>									
<b>HEAVY STOCK REMOVAL (&gt; .004)</b>									
HSS & Tool Steel RC 50-68 400 Series Stainless	Medalist46-JVL	32AR46-JV40	AA46-JV40	Medalist46-IVL	32AR46-IV40	AA46-IV40	Medalist46-GVLP	32AR46-GV40P	PA46-GVPP
Soft Steels RC 30-45 300 Series Stainless	Medalist46-KVL	32AR46-KV40	AA46-KV40	Medalist46-JVL	32AR46-JV40	AA46-JV40	Medalist46-GVLP	AR46-HVPP	PA46-HVPP
Cast Iron: Ductile & Gray	Medalist46-KVL	32AR46-KV40	AA46-KV40	Medalist46-JVL	32AR46-JV40	AA46-JV40	Medalist46-GVLP	32AR46-HV40P	AA466-HV40
Non-ferrous Alloys	—	—	GC60-IVGC	—	—	GC60-IVGC	—	—	GC60-IVGC
<b>MODERATE STOCK REMOVAL (.002 - .004)</b>									
HSS & Tool Steel RC 50-68 400 Series Stainless	Medalist60-JVL	32AR60-JV40	AA60-JV40	Medalist60-IVL	32AR60-IV40	AA60-IV40	Medalist60-GVLP	32AR46-GV40P	AA60-HV40
Soft Steels RC 30-45 300 Series Stainless	Medalist60-KVL	32AR60-KV40	AA60-KV40	Medalist60-JVL	32AR60-JV40	AA60-JV40	Medalist60-GVLP	32AR46-HV40P	AA60-HV40
Cast Iron: Ductile & Gray	Medalist60-KVL	32AR60-KV40	AA60-KV40	Medalist60-JVL	32AR60-JV40	AA60-JV40	Medalist60-GVLP	32AR46-HV40P	AA60-IV40
Non-ferrous Alloys	—	—	GC60-IVGC	—	—	GC60-IVGC	—	—	GC60-IVGC
<b>LIGHT STOCK REMOVAL AND FINISHING (&lt;/.001)</b>									
HSS & Tool Steel RC 50-68 400 Series Stainless	—	32AR80-JV40	AA80-JV40	—	32AR80-IV40	AA80-IV40	—	32AR60-HV40	AA80-HV40
Soft Steels RC 30-45 300 Series Stainless	—	32AR80-KV40	AA80-KV40	—	32AR80-JV40	AA80-JV40	—	32AR80-IV40	AA80-IV40
Cast Iron: Ductile & Gray	—	32AR80-KV40	AA80-KV40	—	32AR80-JV40	AA80-JV40	—	32AR80-IV40	AA80-IV40
Non-ferrous Alloys	—	—	GC80-IVGC	—	—	GC80-IVGC	—	—	GC80-IVGC

# MEDALIST TOOLROOM WHEELS FOR STEEL APPLICATIONS

Best Tier / Ceramic Alumina / Aluminum Oxide Blend

CARBO™  
**MEDALIST™**



The best choice for grinding all high speed tool steels. Medalist has the versatility to grind easy- to difficult-to-grind steels. Use VL bond for general purpose applications or medium contact areas. Use VLP and VPP bonds on wide contact areas where heat is an issue. See Page 145 for additional porous specifications.

FEATURES	BENEFITS
• High-performance ceramic alumina / aluminum oxide abrasive blend – blue color	• Fast stock removal on moderate to very heavy stock removal applications
• Self-sharpening abrasive	• Cool cutting
• High-performance vitrified bond	• Less burn on part
• VLP bond: induced porosity	• Dressing frequency reduced
• Best performance	• Enhanced wheel life
	• Superior form and corner holding
	• Load resistant
	• Highest productivity, lowest total grinding cost

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539562350	6" x 1/4" x 1-1/4"	80-KVL	4,140	10
05539562351 B	7" x 1/4" x 1-1/4"	46-JVL	3,600	10
05539527241	7" x 1/4" x 1-1/4"	60-IVL	3,600	10
05539527242 B	7" x 1/4" x 1-1/4"	60-JVL	3,600	10
05539527243	7" x 1/4" x 1-1/4"	60-KVL	3,600	10
05539527244	7" x 1/4" x 1-1/4"	80-JVL	3,600	10
05539527245	7" x 1/4" x 1-1/4"	80-KVL	3,600	10
05539527247	7" x 1/4" x 1-1/4"	100-KVL	3,600	10
05539527248	7" x 1/2" x 1-1/4"	46-GVLP	3,600	5
05539527250	7" x 1/2" x 1-1/4"	46-IVL	3,600	5
05539527249 B	7" x 1/2" x 1-1/4"	46-IVLP	3,600	5
05539527251	7" x 1/2" x 1-1/4"	46-JVL	3,600	5
05539527252	7" x 1/2" x 1-1/4"	46-KVL	3,600	5
05539527255 B	7" x 1/2" x 1-1/4"	60-IVL	3,600	5
05539527256	7" x 1/2" x 1-1/4"	60-JVL	3,600	5
05539527257 B	7" x 1/2" x 1-1/4"	60-KVL	3,600	5
05539527260	7" x 1/2" x 1-1/4"	80-JVL	3,600	5
05539527261 B	7" x 1/2" x 1-1/4"	80-KVL	3,600	5
05539527262 B	7" x 3/4" x 1-1/4"	46-KVL	3,600	5
05539527264	7" x 1" x 1-1/4"	46-JVL	3,600	5
05539527268 B	8" x 1/2" x 1-1/4"	46-IVL	3,105	5
05539527269	8" x 1/2" x 1-1/4"	46-JVL	3,600	5
05539527270	8" x 1/2" x 1-1/4"	46-KVL	3,600	5
05539527271	8" x 1/2" x 1-1/4"	60-IVL	3,600	5
05539527272	8" x 1/2" x 1-1/4"	60-JVL	3,600	5
05539527273	8" x 1/2" x 1-1/4"	60-KVL	3,600	5
05539562363	8" x 1/2" x 1-1/4"	80-JVL	3,600	5
05539527274	8" x 3/4" x 1-1/4"	46-IVL	3,105	5
05539527275	8" x 3/4" x 1-1/4"	46-JVL	3,600	5
05539527276	8" x 3/4" x 1-1/4"	46-KVL	3,600	5
05539527277	8" x 3/4" x 1-1/4"	60-JVL	3,600	5
05539562365	8" x 1" x 1-1/4"	46-IVL	3,105	5
05539527279	10" x 1" x 3"	46-IVL	2,485	2
05539527280	10" x 1" x 3"	46-JVL	2,485	2
05539527282	10" x 1" x 3"	60-JVL	2,485	2
05539562382	12" x 3/4" x 1-1/4"	46-OVL	2,070	1
05539527283	12" x 1" x 3"	46-IVL	2,070	2
05539527284	12" x 1" x 3"	46-JVL	2,070	2
05539564511	12" x 1" x 3"	60-GVPP	2,070	2
05539527287	12" x 1" x 5"	46-JVL	2,070	2
05539527290	12" x 1" x 5"	60-JVL	2,070	2
05539562337 B	12" x 1-1/2" x 5"	60-GVLP	2,070	2
05539527291	14" x 1" x 5"	46-GVLP	1,800	2
05539527292	14" x 1" x 5"	46-JVL	1,800	2
05539527293	14" x 1" x 5"	60-JVL	1,800	2
05539527294	14" x 1-1/2" x 5"	46-GVLP	1,800	1
05539527295 B	14" x 1-1/2" x 5"	46-IVL	1,800	1

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539527296	14" x 1-1/2" x 5"	46-JVL	1,800	1
05539562346 B	14" x 1-1/2" x 5"	60-IVL	1,800	1
05539527298	14" x 1-1/2" x 5"	60-JVL	1,800	1
05539562347	14" x 1-1/2" x 5"	80-KVL	1,800	1
05539562348	14" x 2" x 5"	46-JVL	1,800	1
05539562349	14" x 2" x 5"	60-JVL	1,800	1
<b>TYPE 05 – FOR SURFACE GRINDERS</b>				
05539527300	7" x 1" x 1-1/4" Recess 1/8 2-3/4" x 1/2"	46-JVL	3,600	5
05539527301	7" x 1" x 1-1/4" Recess 1/8 2-3/4" x 1/2"	60-JVL	3,600	5
05539562370	7" x 1" x 1-1/4" Recess 1/8 3" x 1/2"	60-KVL	3,600	5
05539562366	12" x 1-1/2" x 5" Recess 1/8 7-1/2" x 1/2"	46-GVLP	2,070	2
05539562367	14" x 1-1/2" x 5" Recess 1/8 8" x 1/2"	46-JVL	1,800	1
<b>TYPE 07 – FOR SURFACE GRINDERS</b>				
05539564513	12" x 2" x 5" Recess 2/8 7-1/2" x 1/2"	60-GVPP	2,070	1
<b>TYPE 11 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539527302	4" / 3" x 1-1/2" x 1-1/4" Rim 1/4", Back 1/2"	46-JVL	5,730	5
05539527303	4" / 3" x 1-1/2" x 1-1/4" Rim 1/4", Back 1/2"	60-JVL	5,730	5
05539527305	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	46-JVL	4,585	5
05539527306	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	60-KVL	4,585	5
<b>TYPE 12 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539527308	6" x 1/2" x 1-1/4" U = 3/8, E = 5/16 J = 3, K = 3	46-JVL	4,140	5
05539562380	8" x 1-9/16" x 1-1/4" U = 7/16, E = 25/32, J = 3, K = 3	46-JVL	3,105	4
<b>TYPE 37 – FOR SURFACE GRINDERS</b>				
05539562383	10" x 3-1/2" x 8" Rim 1", Eight 1/4"-20 Bolts on 9" Bolt Circle	54-IVL	2,105	1

Minimum quantity = box quantity. | B = Best Seller



## techtip

**OPERATING TIPS FOR MAXIMIZING GRINDING PERFORMANCE WITH**

### MEDALIST WHEELS

Change one parameter at a time:

- Increase infeed 50%
- Increase traverse rate 25%
- Reduce dressing infeed 25%

# CARBO GOLD TOOLROOM WHEELS FOR STEEL APPLICATIONS

Better Tier / 32AR Aluminum Oxide

CARBO  
GOLD™



Ideal for moderate to heavy infeed rates, rapid stock removal and precision contouring – for all types of tool steels. Use V40 bond for general purpose applications or medium contact areas. Use V40P bond on wide contact areas where heat is an issue. See Page 145 for additional porous specifications.

FEATURES	BENEFITS
• High-performance aluminum oxide abrasive - gray/purple color	• Exceptionally cool, fast cutting on medium to heavy stock removal operations
• Strong, sharp monocrystalline grain blend	• Excellent resistance to point wear
	• Good penetration on tough alloy steels
• Tough, yet friable grain	• Holds form well
	• Requires less dressing
• Strong vitrified bond	• Long wheel life
• V40P bond: induced porosity	• Load resistance

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539527692	6" x 1/2" x 1-1/4"	32AR60-JV40	4,140	10
05539562244	6" x 1/2" x 1-1/4"	32AR60-KV40	4,140	10
05539527686	7" x 1/4" x 1-1/4"	32AR46-HV40	3,600	10
05539527688	7" x 1/4" x 1-1/4"	32AR46-JV40	3,600	10
05539527689	7" x 1/4" x 1-1/4"	32AR60-IV40	3,600	10
05539527311 B	7" x 1/4" x 1-1/4"	32AR60-JV40	3,600	10
05539527312	7" x 1/4" x 1-1/4"	32AR60-KV40	3,600	10
05539527314	7" x 1/4" x 1-1/4"	32AR80-JV40	3,600	10
05539527315 B	7" x 1/4" x 1-1/4"	32AR80-KV40	3,600	10
05539562246 B	7" x 1/4" x 1-1/4"	32AR100-JV40	3,600	10
05539562249	7" x 1/4" x 1-1/4"	32AR120-KV40	3,600	10
05539527317	7" x 1/2" x 1-1/4"	32AR46-GV40P	3,600	5
05539527319	7" x 1/2" x 1-1/4"	32AR46-HV40	3,600	5
05539527318 B	7" x 1/2" x 1-1/4"	32AR46-HV40P	3,600	5
05539527321	7" x 1/2" x 1-1/4"	32AR46-IV40	3,600	5
05539527320	7" x 1/2" x 1-1/4"	32AR46-IV40P	3,600	5
05539527322	7" x 1/2" x 1-1/4"	32AR46-JV40	3,600	5
05539527323	7" x 1/2" x 1-1/4"	32AR46-KV40	3,600	5
05539527326	7" x 1/2" x 1-1/4"	32AR60-HV40	3,600	5
05539527327	7" x 1/2" x 1-1/4"	32AR60-IV40	3,600	5
05539527328 B	7" x 1/2" x 1-1/4"	32AR60-JV40	3,600	5
05539527329	7" x 1/2" x 1-1/4"	32AR60-KV40	3,600	5
05539527331	7" x 1/2" x 1-1/4"	32AR80-KV40	3,600	5
05539527334	7" x 3/4" x 1-1/4"	32AR46-IV40	3,600	5
05539527335	7" x 3/4" x 1-1/4"	32AR46-KV40	3,600	5
05539527337 B	7" x 3/4" x 1-1/4"	32AR60-KV40	3,600	5
66253054775	8" x 1/4" x 1-1/4"	32AR46-KV40	3,600	5
05539562264	8" x 1/4" x 1-1/4"	32AR60-JV40	3,600	5
05539527338	8" x 1/4" x 1-1/4"	32AR60-KV40	3,600	5
05539527339	8" x 1/4" x 1-1/4"	32AR80-KV40	3,600	5
05539527340 B	8" x 1/2" x 1-1/4"	32AR46-GV40	3,105	5
05539527342	8" x 1/2" x 1-1/4"	32AR46-HV40	3,105	5
05539527341†	8" x 1/2" x 1-1/4"	32AR46-HV40P	3,600	5
05539527343 B	8" x 1/2" x 1-1/4"	32AR46-IV40	3,105	5
05539527344	8" x 1/2" x 1-1/4"	32AR46-JV40	3,600	5
05539527345	8" x 1/2" x 1-1/4"	32AR46-KV40	3,600	5
05539527347	8" x 1/2" x 1-1/4"	32AR60-HV40	3,600	5
05539527348	8" x 1/2" x 1-1/4"	32AR60-IV40	3,600	5

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539527349 B	8" x 1/2" x 1-1/4"	32AR60-JV40	3,600	5
05539527353	8" x 3/4" x 1-1/4"	32AR46-IV40	3,105	5
05539527354	8" x 3/4" x 1-1/4"	32AR46-JV40	3,600	5
05539527355	8" x 3/4" x 1-1/4"	32AR60-IV40	3,600	5
05539527356	8" x 3/4" x 1-1/4"	32AR60-JV40	3,600	5
05539562272	8" x 1" x 1-1/4"	32AR60-IV40	3,600	5
05539562201	10" x 3/4" x 3"	32AR46-IV40	2,485	2
05539527696	10" x 3/4" x 3"	32AR60-JV40	2,485	2
05539527697	10" x 1" x 3"	32AR46 GV40P	2,485	2
05539527359	10" x 1" x 3"	32AR46-IV40	2,485	2
05539527360	10" x 1" x 3"	32AR60-IV40	2,485	2
05539562204	10" x 1" x 3"	32AR60-KV40	2,485	2
05539527361	12" x 1" x 3"	32AR46-HV40	2,070	2
05539562216 B	12" x 1" x 3"	32AR46-IV40	2,070	2
05539527362	12" x 1" x 3"	32AR46-JV40	2,070	2
05539527364	12" x 1" x 3"	32AR60-JV40	2,070	2
05539527365	12" x 1" x 5"	32AR46-IV40	2,070	2
05539562221	12" x 1-1/4" x 3"	32AR46-IV40	2,070	2
05539527368 B	12" x 1-1/2" x 5"	32AR46-HV40	2,070	2
05539527369	12" x 1-1/2" x 5"	32AR46-IV40	2,070	2
05539562224	12" x 1-1/2" x 5"	32AR46-JV40	2,070	2
05539562226	12" x 1-1/2" x 5"	32AR60-HV40	2,070	2
05539562227	12" x 2" x 1-1/4"	32AR46-KV40	2,070	2
05539562316	12" x 2" x 5"	32AR46-IV40	2,070	2
05539562230	14" x 1" x 5"	32AR46-HV40	1,800	2
05539527370	14" x 1" x 5"	32AR46-JV40	1,800	2
05539527371	14" x 1" x 5"	32AR60-JV40	1,800	2
05539527372 B	14" x 1-1/2" x 5"	32AR46-HV40	1,800	1
05539527673	14" x 1-1/2" x 5"	32AR46-IV40	1,800	1
05539527700	14" x 1-1/2" x 5"	32AR46-JV40	1,800	1
05539562240	14" x 2" x 5"	32AR46-IV40	1,800	1
05539562242	14" x 2" x 5"	32AR60-KV40	1,800	1

Minimum quantity = box quantity. | B = Best Seller  
Continued on next page



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

### 8" TYPE 01 AND TYPE 05 VITRIFIED TOOLROOM WHEELS' MAXIMUM OPERATING SPEEDS:

- 46 grit, J grade and harder = 3,600 RPMs
- 54 grit, I grade and harder = 3,600 RPMs
- 60 grit and finer, H grade and harder = 3,600 RPMs
- † Exceptions to the rule: speed-tested to 3,600 RPMs
- all other specifications = 3,105 RPMs



# **CARBO GOLD** TOOLROOM WHEELS FOR STEEL APPLICATIONS [CONTINUED]

**Better Tier / 32AR Aluminum Oxide**

**CARBO**  
**GOLD™**

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 02 – FOR SURFACE AND TOOL &amp; CUTTER GRINDERS</b>				
05539562315	9" x 2" x 5" Rim 2-1/32", Six 9/32 Holes on 4" Bolt Circle	32AR70-JV40P	2,546	2
<b>TYPE 05 – FOR SURFACE GRINDERS</b>				
05539527703	7" x 1" x 1-1/4" Recess 1/S 2-3/4" x 1/2"	32AR46-HV40	3,600	5
05539527675	7" x 1" x 1-1/4" Recess 1/S 2-3/4" x 1/2"	32AR46-IV40	3,600	5
05539527704	7" x 1" x 1-1/4" Recess 1/S 2-3/4" x 1/2"	32AR60-IV40	3,600	5
05539562285	7" x 1" x 1-1/4" Recess 1/S 3" x 1/2"	32AR46-KV40	3,600	5
05539562286	7" x 1-1/4" x 1-1/4" Recess 1/S 2-3/4" x 5/8"	32AR60-IV40	3,600	5
05539527677	8" x 1" x 1-1/4" Recess 1/S 3-1/4" x 1/2"	32AR46-IV40	3,600	5
05539527678	8" x 1" x 1-1/4" Recess 1/S 3-1/4" x 1/2"	32AR46-JV40	3,600	5
05539562277	12" x 1-1/2" x 5" Recess 1/S 7-1/2" x 1/2"	32AR46-IV40	2,070	2
05539562279	14" x 1-1/2" x 5" Recess 1/S 8" x 1/2"	32AR46-IV40	1,800	1
05539562281	14" x 1-1/2" x 5" Recess 1/S 8" x 1/2"	32AR60-IV40	1,800	1
05539562283	14" x 2" x 5" Recess 1/S 8" x 1"	32AR60-KV40	1,800	1
<b>TYPE 06 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539562288	5 x 1-1/2" x 1-1/4" " Rim 3/8", Back 3/8"	32AR46-KV40	4,585	5
05539527705	5 x 1-1/2" x 1-1/4" " Rim 3/8", Back 3/8"	32AR60-KV40	4,585	5
<b>TYPE 07 – FOR SURFACE GRINDERS</b>				
05539562292	12" x 2" x 5" Recess 2/S 7-1/2" x 1/2"	32AR46-HV40	2,070	1
05539562294	12" x 2" x 5" Recess 2/S 7-1/2" x 1/2"	32AR46-KV40	2,070	1

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 11 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539527679	4" / 3" x 1-1/2" x 1-1/4" Rim 1/4", Back 1/2"	32AR46-KV40	5,730	5
05539527680	4" / 3" x 1-1/2" x 1-1/4" Rim 1/4", Back 1/2"	32AR60-JV40	5,730	5
05539527681	4" / 3" x 1-1/2" x 1-1/4" Rim 1/4", Back 1/2"	32AR60-KV40	5,730	5
05539527682	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	32AR46-JV40	4,585	5
05539527684	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	32AR46-KV40	4,585	5
05539527685	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	32AR60-JV40	4,585	5
05539527683	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	32AR60-KV40	4,585	5
05539562301	6" / 4-1/2" x 2" x 1-1/4" Rim 3/8", Back 1/2"	32AR46-IV40	3,820	5
<b>TYPE 12 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539527707	6" x 1/2" x 1-1/4" U = 3/8, E = 5/16 J = 3, K = 3	32AR60-JV40	4,140	5
05539562303	10" x 1" x 1-1/4" U = 2, E = 11/16, J = 6-1/4, K = 3-5/8	32AR54-JV40	2,485	2
<b>Minimum quantity = box quantity.</b>				



See Carbo Cool wheel listings for porous specifications on pages 145.

**NEW! TO MAXIMIZE THE PERFORMANCE OF TOOLROOM WHEELS SEE THE NEW CARBORUNDUM STATIONARY DIAMOND DRESSING TOOLS ON PAGE 156-157.**

# CARBO AA TOOLROOM WHEELS FOR STEEL APPLICATIONS

Good Tier / Aluminum Oxide

CARBO™



AA abrasive is ideal for grinding heat-sensitive steels, as well as easy- and medium-to-grind high-speed steels and cast, alloy steels. Use V40 bond for general purpose applications or medium contact areas. Use V40P and VPP bonds on wide contact areas where heat is an issue.

FEATURES	BENEFITS
• Aluminum oxide abrasive – white color	• Fast stock removal for light to medium stock removal operations
• Excellent friability	• Cool cutting action
• Durable, vitrified bond	• Long wheel life
• V40P bond: induced porosity	• Load resistant

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539562175	7" x 1/8" x 1-1/4"	AA100-KV40	3,600	10
66253051696	7" x 1/4" x 1-1/4"	AA46-IV40	3,600	10
05539509875	7" x 1/4" x 1-1/4"	AA60-JV40	3,600	10
05539509874	7" x 1/4" x 1-1/4"	AA60-KV40	3,600	10
66253051698	7" x 1/4" x 1-1/4"	AA80-JV40	3,600	10
05539527714	7" x 1/4" x 1-1/4"	AA100-KV40	3,600	10
05539509866	7" x 1/4" x 1-1/4"	AA150-KV40	3,600	10
05539569199	7" x 1/4" x 1-1/4"	PA60-JV40	3,600	10
05539509865	7" x 1/2" x 1-1/4"	AA46-HV40	3,600	5
05539509864	7" x 1/2" x 1-1/4"	AA46-IV40	3,600	5
05539509863	7" x 1/2" x 1-1/4"	AA46-JV40	3,600	5
05539509862	7" x 1/2" x 1-1/4"	AA46-KV40	3,600	5
66253051967	7" x 1/2" x 1-1/4"	AA60-HV40	3,600	5
05539564489	7" x 1/2" x 1-1/4"	AA60-HVPP	3,600	5
05539509860	7" x 1/2" x 1-1/4"	AA60-IV40	3,600	5
05539509859	7" x 1/2" x 1-1/4"	AA60-JV40	3,600	5
05539509858	7" x 1/2" x 1-1/4"	AA60-KV40	3,600	5
66253051969	7" x 1/2" x 1-1/4"	AA80-HV40	3,600	5
05539509857	7" x 1/2" x 1-1/4"	AA80-IV40	3,600	5
05539509854	7" x 1/2" x 1-1/4"	AA80-KV40	3,600	5
05539509852	7" x 1/2" x 1-1/4"	AA100-IV40	3,600	5
05539562180	7" x 1/2" x 1-1/4"	AA120-KV40	3,600	5
05539509848	7" x 3/4" x 1-1/4"	AA60-IV40	3,600	5
05539509844 B	8" x 1/4" x 1-1/4"	AA80-JV40	3,600	5
05539509841	8" x 1/2" x 1-1/4"	AA46-HV40	3,105	5
05539509840	8" x 1/2" x 1-1/4"	AA46-IV40	3,105	5
05539509839	8" x 1/2" x 1-1/4"	AA46-JV40	3,600	5
05539509836	8" x 1/2" x 1-1/4"	AA60-IV40	3,600	5
05539562190	8" x 1/2" x 1-1/4"	AA60-JV40	3,600	5
66253052850	8" x 1/2" x 1-1/4"	AA60-KV40	3,600	5
05539527716	8" x 1/2" x 1-1/4"	AA80-JV40	3,600	5
05539509827	8" x 3/4" x 1-1/4"	AA46-JV40	3,600	5
05539509814	10" x 1" x 3"	AA46-JV40	2,485	2
05539509810	12" x 1" x 3"	AA46-JV40	2,070	2
05539501900	12" x 1" x 5"	AA46-IV40	2,070	2
05539509807	12" x 1" x 5"	AA60-JV40	2,070	2
05539509806	14" x 1" x 5"	AA46-JV40	1,800	2
05539562172	14" x 1-1/2" x 5"	AA46-IV40	1,800	1
05539509804 B	14" x 1-1/2" x 5"	AA46-JV40	1,800	1
05539509803	14" x 1-1/2" x 5"	AA60-JV40	1,800	1
<b>TYPE 02 – FOR SURFACE AND TOOL &amp; CUTTER GRINDERS</b>				
05539503517	9" x 2" x 5" Rim 2-1/32", Six 9/32 Holes on 4" Bolt Circle	AA70-JV40P	2,546	2

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 05 – FOR SURFACE GRINDERS</b>				
66253054746	7" x 3/4" x 1-1/4" Recess 1/8" x 1/4"	AA46-IV40	3,600	5
66253054748	7" x 3/4" x 1-1/4" Recess 1/8" x 1/4"	AA46-JV40	3,600	5
05539509798	7" x 1" x 1-1/4" Recess 1/8" x 1/2"	AA46-IV40	3,600	5
66253054767	7" x 1" x 1-1/4" Recess 1/8" x 1/2"	AA46-JV40	3,600	5
05539509796	7" x 1" x 1-1/4" Recess 1/8" x 1/2"	AA60-IV40	3,600	5
66253054769	7" x 1" x 1-1/4" Recess 1/8" x 1/2"	AA60-JV40	3,600	5
<b>TYPE 06 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539509793	4" x 2" x .787 (20mm) Rim 3/8", Back 3/8"	AA80-JV40	5,730	5
05539509792	6" x 1-1/2" x 1-1/4" Rim 1-1/2", Back 1/2"	AA60-JV40	3,820	5
<b>TYPE 11 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539509790	4" / 3" x 1-1/2" x 1-1/4" Rim 1/4", Back 1/2"	AA46-KV40	5,730	5
05539569412	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	AA46-JV40	4,585	5
05539509783	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	AA60-JV40	4,585	5
05539509782	5" / 3-3/4" x 1-3/4" x 1-1/4" Rim 1/4", Back 1/2"	AA60-KV40	4,585	5
05539509781	6" / 4-1/2" x 2" x 1-1/4" Rim 3/8", Back 1/2"	AA46-KV40	3,820	5
<b>TYPE 12 – FOR TOOL &amp; CUTTER GRINDERS</b>				
05539509777	6" x 1/2" x 1-1/4" U = 3/8, E = 5/16 J = 3, K = 3	AA60-JV40	4,140	5

Minimum quantity = box quantity. | B = Best Seller



See Carbo Cool wheel listings for porous specifications on pages 146.

## CARBO PA TOOLROOM WHEELS FOR STEEL APPLICATIONS

Good Tier / Aluminum Oxide

CARBO™



Excels in light to medium stock removal applications at light to moderate feed rates on tool steels (hardened, forged and stainless) and cast iron. Use V40 bond for general purpose applications or medium contact areas. Use VPP bond on wide contact areas where heat is an issue.

FEATURES	BENEFITS
• Friable, aluminum oxide abrasive – pink color	• Designed to grind a broad variety of steels at light to moderate feed rates
• Durable vitrified bond	• Maximum grain retention
	• Less dressing; longer wheel life

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539569199	7" x 1/4" x 1-1/4"	PA60-JV40	3,600	10
05539564571	12" x 1" x 3"	PA60-GVPP	2,070	2
Minimum quantity = box quantity.				



See Carbo Cool wheel listings for porous specifications on page 146.

## CARBO GOLD 32AR SKATE SHARPENING WHEELS

Better Tier / Aluminum Oxide

CARBO  
GOLD™



Formulated for sharpening all types of skate blades.

FEATURES	BENEFITS
• Premium aluminum oxide abrasive – gray/purple color	• Fast, cool cutting action
• Strong vitrified bond	• No burn
	• Consistent form holding
	• Long life
• Plastic bushing	• Provides a tighter fit – reducing vibrations and arbor-wear on the skate grinder

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>TYPE 01 – FOR SKATE SHARPENING MACHINES</b>				
05539528044	8 x 5/16 x 1-1/4	32AR80-KV40	3,600	5
<b>TYPE 01 CROSS GRIND – FOR SKATE SHARPENING MACHINES</b>				
05539509972	6 x 1 x 1	60 - Medium	4,140	5
Minimum quantity = box quantity.				



## CARBO COOL MEDALIST R TOOLROOM WHEELS FOR STEEL APPLICATIONS

Best Tier / Ceramic Alumina



High porosity for heavy stock removal, heat-sensitive applications.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Ceramic Medalist R abrasive with VPP porous bond – purple color</li> <li>Controlled porosity bond</li> </ul>	<ul style="list-style-type: none"> <li>Maximum productivity; lowest total grinding costs</li> <li>Increased chip clearance, maximum coolant flow, reduced loading</li> <li>Cool cutting – wet or dry – in heat-sensitive applications</li> </ul>
<ul style="list-style-type: none"> <li>Durable bond post</li> </ul>	<ul style="list-style-type: none"> <li>Maximum grain retention</li> <li>Less dressing; longer wheel life</li> </ul>
<ul style="list-style-type: none"> <li>Maximum depth of cut</li> </ul>	<ul style="list-style-type: none"> <li>Consistent grinding action at high metal removal rates</li> </ul>

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>HIGH POROSITY – FOR HEAVY STOCK REMOVAL</b>				
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539564503	8 x 1/2 x 1-1/4	46-HVPP	3,600	5
Minimum quantity = box quantity.				



## CARBO COOL AR TOOLROOM WHEELS FOR STEEL APPLICATIONS

Better Tier / Aluminum Oxide



Engineered for medium to heavy stock removal, heat-sensitive applications.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Durable aluminum oxide abrasive with VPP porous bond – ruby color</li> <li>Controlled porosity bond</li> </ul>	<ul style="list-style-type: none"> <li>Extremely cool cutting</li> <li>Good form holding</li> <li>Increased chip clearance, maximum coolant flow, reduced loading</li> <li>Cool cutting – wet or dry – in heat-sensitive applications</li> </ul>
<ul style="list-style-type: none"> <li>Durable bond post</li> </ul>	<ul style="list-style-type: none"> <li>Maximum grain retention</li> <li>Less dressing; longer wheel life</li> </ul>

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>HIGH POROSITY – FOR MEDIUM/HEAVY STOCK REMOVAL</b>				
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539564480	7 x 1/2 x 1-1/4	AR46-GVPP	3,600	5
05539564484	7 x 1/2 x 1-1/4	AR46-HVPP	3,600	5
05539564486	7 x 1/2 x 1-1/4	AR60-HVPP	3,600	5
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539564530	8 x 1/2 x 1-1/4	AR46-HVPP	3,600	5
Minimum quantity = box quantity.				



**NEW! TO MAXIMIZE THE PERFORMANCE OF TOOLROOM WHEELS SEE THE NEW CARBORUNDUM STATIONARY DIAMOND DRESSING TOOLS ON PAGE 156-157.**

## CARBO COOL PA TOOLROOM WHEELS FOR STEEL APPLICATIONS

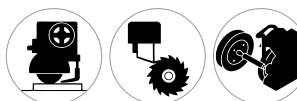
Good Tier / Aluminum Oxide



Excels in light to medium stock removal, heat-sensitive applications.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Friable, aluminum oxide abrasive with VPP porous bond – pink color</li> <li>Controlled porosity bond</li> </ul>	<ul style="list-style-type: none"> <li>Designed to grind a broad variety of steels at light to moderate feed rates</li> <li>Increased chip clearance and maximum coolant flow</li> <li>Reduced loading</li> <li>Cool cutting – wet or dry – in heat-sensitive applications</li> </ul>
<ul style="list-style-type: none"> <li>Durable bond post</li> </ul>	<ul style="list-style-type: none"> <li>Maximum grain retention</li> <li>Less dressing; longer wheel life</li> </ul>

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>HIGH POROSITY – FOR LIGHT/MEDIUM STOCK REMOVAL</b>				
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539564477	7 x 1/2 x 1-1/4	PA46-GVPP	3,600	5
05539564490	7 x 1/2 x 1-1/4	PA46-HVPP	3,600	5
05539564492	7 x 1/2 x 1-1/4	PA60-HVPP	3,600	5
Minimum quantity = box quantity.				



## CARBO COOL AA TOOLROOM WHEELS FOR STEEL APPLICATIONS

Good Tier / Aluminum Oxide



Excellent for light stock removal, heat-sensitive applications.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Most friable aluminum oxide abrasive with VPP porous bond – white color</li> </ul>	<ul style="list-style-type: none"> <li>Exceptionally cool cutting in light pressure grinding applications, or where burn is a concern</li> </ul>
<ul style="list-style-type: none"> <li>Versatile</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for use across a broad variety of tool steels</li> </ul>
<ul style="list-style-type: none"> <li>Controlled porosity bond</li> </ul>	<ul style="list-style-type: none"> <li>Increased chip clearance, maximum coolant flow, reduced loading</li> <li>Cool cutting – wet or dry – in heat-sensitive applications</li> </ul>
<ul style="list-style-type: none"> <li>Durable bond post</li> </ul>	<ul style="list-style-type: none"> <li>Maximum grain retention</li> <li>Less dressing; longer wheel life</li> </ul>

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>HIGH POROSITY – FOR LIGHT STOCK REMOVAL</b>				
<b>TYPE 01 – FOR SURFACE, CYLINDRICAL AND TOOL &amp; CUTTER GRINDERS</b>				
05539564479	7 x 1/2 x 1-1/4	AA46-GVPP	3,600	5
05539564487	7 x 1/2 x 1-1/4	AA46-HVPP	3,600	5
05539564599	8 x 1/2 x 1-1/4	AA46-HVPP	3,600	5
Minimum quantity = box quantity.				



## CARBO GC TOOLROOM WHEELS FOR NON-STEEL APPLICATIONS

Good Tier / Silicon Carbide

**CARBO™**



GC abrasive is used for grinding hard, cemented carbide tooling and non-ferrous materials.

FEATURES	BENEFITS
• High performance, sharp, silicon carbide abrasive – green	• Fast stock removal
• Performance vitrified bond	• Cool, free cut
	• Long life

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR CARBIDE</b>				
<b>TYPE 01 – FOR SURFACE AND TOOL &amp; CUTTER GRINDERS</b>				
05539509585 B	6 x 1/2 x 1-1/4	GC80-IVGC	4,140	5
05539509582	6 x 1/2 x 1-1/4	GC120-IVGC	4,140	5
05539509581	6 x 3/4 x 1-1/4	GC60-IVGC	4,140	5
05539509580	6 x 3/4 x 1-1/4	GC80-IVGC	4,140	5
05539509578	6 x 3/4 x 1-1/4	GC120-IVGC	4,140	5
05539509576	7 x 1/2 x 1-1/4	GC60-IVGC	3,600	5
05539509575	7 x 1/2 x 1-1/4	GC80-IVGC	3,600	5
05539509573	7 x 1/2 x 1-1/4	GC120-IVGC	3,600	5
05539509572	8 x 1/2 x 1-1/4	GC60-IVGC	3,600	5
05539562395 B	8 x 1/2 x 1-1/4	GC100-IVGC	3,600	5
05539509570	8 x 3/4 x 1-1/4	GC60-IVGC	3,600	5
05539562397	8 x 1 x 1-1/4	GC60-JVGC	3,600	5
05539562398	8 x 1 x 1-1/4	GC80-IVGC	3,600	5

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR CARBIDE</b>				
<b>TYPE 01 – FOR SURFACE AND TOOL &amp; CUTTER GRINDERS (CONTINUED)</b>				
05539509566	6 x 1 x 4 Rim 1, Fits Both: Four 9/32 Holes on 3-1/4" Bolt Circle Four 7/16 Holes on 3-1/4" Bolt Circle	GC60-IVGC	3,600	2
05539509564	6 x 1 x 4 Rim 1, Fits Both: Four 9/32 Holes on 3-1/4" Bolt Circle Four 7/16 Holes on 3-1/4" Bolt Circle	GC120-IVGC		2
<b>Minimum quantity = box quantity.   B = Best Seller</b>				



**NEW! TO MAXIMIZE THE PERFORMANCE OF TOOLROOM WHEELS SEE THE NEW CARBORUNDUM STATIONARY DIAMOND DRESSING TOOLS ON PAGE 156-157.**

## BENCH AND PEDESTAL WHEELS

Good Tier / Aluminum Oxide

**CARBO™**



Ideal for removing burrs on steel parts, as well as sharpening high-speed steel cutting tools.  
Note: arbor hole reducing bushings included. See next page.

FEATURES	BENEFITS
• Aluminum oxide abrasive – brown color	• Fast cut rate
• Vitrified bond	• Free cutting action; long life

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR STEEL/METAL</b>				
<b>TYPE 01 – FOR BENCH AND PEDESTAL GRINDERS</b>				
05539509978	6 x 1/2 x 1	60-M	4,140	5
05539509976	6 x 3/4 x 1	36-M	4,140	5
05539509975	6 x 3/4 x 1	60-M	4,140	5
05539509974	6 x 3/4 x 1	100-K	4,140	5
05539509973	6 x 1 x 1	36-M	4,140	5
05539509972	6 x 1 x 1	60-M	4,140	5
05539509971	6 x 1 x 1	100-K	4,140	5
05539509966	7 x 1 x 1	36-M	3,600	5
66253059536	7 x 1 x 1	46-M	3,600	5
05539509965	7 x 1 x 1	60-M	3,600	5
05539509964	7 x 1 x 1	100-K	3,600	5
05539509961	8 x 3/4 x 1	60-M	3,600	5
05539509960	8 x 1 x 1	24-P	3,600	5
05539509959	8 x 1 x 1	36-M	3,600	5
05539509956	8 x 1 x 1	60-M	3,600	5
66253060236	8 x 1 x 1	80-M	3,600	5
05539509955	10 x 1 x 1-1/4	24-P	2,485	2
05539509953	10 x 1 x 1-1/4	36-M	3,250	2

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR STEEL/METAL</b>				
<b>TYPE 01 – FOR BENCH AND PEDESTAL GRINDERS CONTINUED</b>				
05539509952	10 x 1 x 1-1/4	60-M	3,250	2
05539509950	10 x 1-1/4 x 1-1/4	36-M	3,250	2
05539509948	10 x 1-1/2 x 1-1/4	24-P	2,485	2
05539509947	10 x 1-1/2 x 1-1/4	36-M	3,250	2
05539509941	12 x 1-1/2 x 1-1/2	36-M	2,705	1
05539509939	12 x 2 x 1-1/2	24-P	2,070	1
05539509938	12 x 2 x 1-1/2	36-M	2,705	1
05539509937	12 x 2 x 1-1/2	60-M	2,705	1
05539509935	14 x 2 x 1-1/2	24-P	1,800	1
05539509934	14 x 2 x 1-1/2	36-M	1,800	1
<b>Minimum quantity = box quantity.</b>				



## CARBO WHITE BENCH AND PEDESTAL WHEELS

Standard Tier / Aluminum Oxide

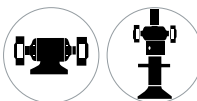
**CARBO™**  
**WHITE™**



Good choice for general purpose light metal removal and resharpener of steel and metal tools.  
Note: arbor hole reducing bushings included. See next page.

FEATURES	BENEFITS
• Versatile aluminum oxide abrasive – brown color	• Ideal for small job shops and numerous general purpose applications
	• The choice when initial price is a primary purchasing criterion
• Vitified bond	• Free cutting action; long life

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR STEEL/METAL</b>				
<b>TYPE 01 – FOR BENCH AND PEDESTAL GRINDERS</b>				
66253383004	6 x 3/4 x 1	Coarse	4,140	2
66253383005	6 x 3/4 x 1	Medium	4,140	2
66253383006	6 x 3/4 x 1	Fine	4,140	2
66253383007	6 x 1 x 1	Coarse	4,140	2
66253383008	6 x 1 x 1	Medium	4,140	2
66253383009	6 x 1 x 1	Fine	4,140	2
66253383010	8 x 1 x 1	Coarse	3,600	2
66253383011	8 x 1 x 1	Medium	3,600	2
66253383012	8 x 1 x 1	Fine	3,600	2
<b>Minimum quantity = box quantity.</b>				



## BENCH AND PEDESTAL WHEELS

Good Tier / Silicon Carbide

**CARBO™**



Ideal for sharpening carbide-tipped cutting tools. Note: arbor hole reducing bushings included. See below.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Sharp, silicon carbide abrasive – dark green color</li> <li>Vitrified bond</li> </ul>	<ul style="list-style-type: none"> <li>Fast cut rate</li> <li>Free cutting action; long life</li> </ul>

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR CARBIDE/NON-FERROUS METALS</b>				
<b>TYPE 01 – FOR BENCH AND PEDESTAL GRINDERS</b>				
05539509929	6 x 3/4 x 1	60-I	4,140	1
05539509928	6 x 3/4 x 1	80-I	4,140	1
05539509927	6 x 3/4 x 1	120-I	4,140	1
05539509926	6 x 1 x 1	60-I	4,140	1
05539509925	6 x 1 x 1	80-I	4,140	1
05539509924	6 x 1 x 1	120-I	4,140	1
66253060288	7 x 1 x 1	60-I	3,600	5
05539509922	7 x 1 x 1	80-I	3,600	5
05539509920	7 x 1 x 1	120-I	3,600	5
05539509916	8 x 1 x 1	60-I	3,600	5

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR CARBIDE/NON-FERROUS METALS</b>				
<b>TYPE 01 – FOR BENCH AND PEDESTAL GRINDERS CONTINUED</b>				
05539509915	8 x 1 x 1	80-I	3,600	5
05539509914	8 x 1 x 1	120-I	3,600	5
05539509913	10 x 1 x 1-1/4	60-I	3,250	2
05539509912	10 x 1 x 1-1/4	80-I	3,250	2
05539509911	10 x 1 x 1-1/4	120-I	3,250	2
<b>Minimum quantity = box quantity.</b>				



## CARBO WHITE BENCH AND PEDESTAL WHEELS

Standard Tier / Silicon Carbide

**CARBO™**  
**WHITE™**



Good choice for general purpose bench and pedestal applications on non-ferrous materials and carbide tooling. Note: arbor hole reducing bushings included. See below.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Sharp, silicon carbide abrasive – green color</li> <li>Vitrified bond</li> </ul>	<ul style="list-style-type: none"> <li>Ideal for small job shops and numerous general purpose applications</li> <li>The choice when initial price is a primary purchasing criterion</li> <li>Free cutting action; long life</li> </ul>

PART #	WHEEL SIZE	GRADING	MAX. RPM	WHEELS/ BOX
<b>FOR CARBIDE/NON-FERROUS METALS</b>				
<b>TYPE 01 – FOR BENCH AND PEDESTAL GRINDERS</b>				
66253383015	6 x 3/4 x 1	Medium	4,140	2
66253383016	6 x 3/4 x 1	Fine	4,140	2
66253383017	6 x 1 x 1	Medium	4,140	2
66253383018	6 x 1 x 1	Fine	4,140	2
66253383019	8 x 1 x 1	Medium	3,600	2
66253383021	8 x 1 x 1	Fine	3,600	2
<b>Minimum quantity = box quantity</b>				



## REDUCING BUSHINGS FOR BENCH AND PEDESTAL WHEELS

Accessory



Reducing bushings can be safely used to reduce the center hole in a grinding wheel. They are designed to fit freely on the spindle and maintain proper clearance. It is important that the bushing diameter does not come in contact with the flange bearing area and does not exceed the width of the wheel.

**Reducing bushings are included with Bench and Pedestal Wheels as follows:**

WHEEL DIAMETER	BUSHING	WHEEL DIAMETER	BUSHING
6", 7"	7/8, 3/4, 5/8, 1/2	12"	1-1/4, 1
8"	7/8, 3/4, 5/8	14"	1-1/4, 1
10"	1, 7/8, 3/4		

## MEDALIST SURFACE GRINDING SEGMENTS

Best Tier / Ceramic Alumina

CARBO™  
**MEDALIST™**



Ideal for high stock removal on flat surfaces. Best for grinding hard materials.

FEATURES	BENEFITS
• High-performance, ceramic alumina abrasive - blue color	• Fastest stock removal; maximum productivity
• Self-sharpening abrasive	• Cool cutting
• High-performance bond	• Less burn on part
• Induced porosity	• Enhanced segment life
	• Cool, free cut with excellent chip/coolant flow

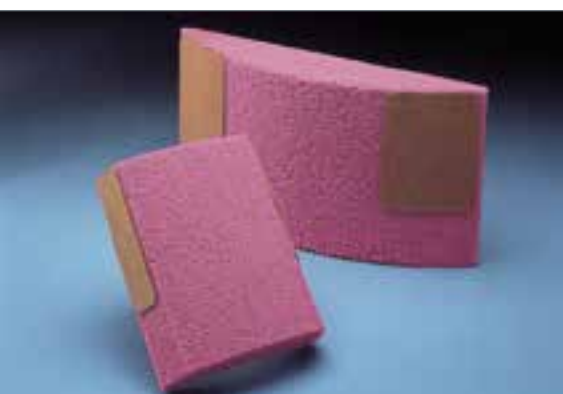
PART NO.	SEGMENT SIZE	GRADING	TYPE	SEGMENTS/BOX
05539507043	5 x 1-1/2 x 6	30-EVLP	NO	8
05539507044	5 x 1-1/2 x 6	30-GVLP	NO	8
05539507047	11-1/4 x 2-1/4 x 6	30-EVLP	CD	5
05539562907	11-1/4 x 2-1/4 x 6	30-FVLP	CD	5
05539507048	11-1/4 x 2-1/4 x 6	30-GVLP	CD	5



## PREMIER RED SURFACE GRINDING SEGMENTS

Better Tier / Aluminum Oxide

CARBO™  
**PREMIER™**  
RED



Engineered for high stock removal on flat surfaces. Very versatile; work well on mild steels.

FEATURES	BENEFITS
• Performance, aluminum oxide abrasive - pink color	• Fast, cool cutting action
• Premium vitrified bond with induced porosity	• Long life with cool, free cut

PART NO.	SEGMENT SIZE	GRADING	TYPE	SEGMENTS/BOX
05539562911	5 x 1-1/2 x 6	RA30-GV40P	NO	8
05539562912	11-1/4 x 2-1/4 x 6	RA24-EV40P	CD	5
05539562914	11-1/4 x 2-1/4 x 6	RA30-EV40P	CD	5
05539562915	11-1/4 x 2-1/4 x 6	RA30-GV40P	CD	5



## CARBO GOLD SURFACE GRINDING SEGMENTS

Good Tier / Aluminum Oxide

CARBO  
**GOLD™**



For high stock removal on flat surfaces. Excellent value for general purpose use.

FEATURES	BENEFITS
• Excellent value, aluminum oxide abrasive blend - gray/pink color	• Fast, cool cutting action
• Advanced vitrified bond with induced porosity	• Long life with cool, free cut

PART NO.	SEGMENT SIZE	GRADING	TYPE	SEGMENTS/BOX
05539563010	11-1/4 x 2-1/4 x 6	Gold 30-E	CD	5
05539562922	11-1/4 x 2-1/4 x 6	Gold 30-F	CD	5
05539562924	11-1/4 x 3 x 8	Gold 30-F	CD*	4

\* Bonus Grind



### SIZE = WIDTH X THICKNESS X HEIGHT

SEGMENT NO.	SEGMENTS PER SET FOR NORTON-MATTISON CHUCKS (NO):
NO14	6
NO18	8
NO20	9
NO22	10

SEGMENT NO.	SEGMENTS PER SET FOR CORTLAND CHUCKS (CD):
CD18L	4
CD22L	5
CD36	8



TYPE NO



TYPE CD



## NORZON MOUNTED POINTS – RESIN BOND

Best Tier / Zirconia Alumina



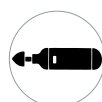
Premium quality mounted points for metal fabricating and foundry applications. 24 grit: snagging castings, smoothing contours, removing fins and parting lines.

### FEATURES

- Self-sharpening zirconia alumina abrasive
- Durable resin bond

### BENEFITS

- Aggressive, free cut
- 4 times faster stock removal than competitive aluminum oxide products
- Long lasting



A1



A3



A11



W SHAPES

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"A" SHAPES</b>						
61463616457	A1	3/4 x 2-1/2	1/4	NZ24-UBXR1	19,800	5/25
61463616459	A3	1 x 2-3/4	1/4	NZ24-UBXR1	16,100	5/25
61463616463	A11	7/8 x 2	1/4	NZ24-UBXR1	19,860	5/25

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"W" SHAPES</b>						
61463616465	W189	1/2 x 2	1/4	NZ24-UBXR1	24,000	5/25
61463616467	W197	5/8 x 2	1/4	NZ24-UBXR1	21,000	5/25
61463616471	W208	3/4 x 2	1/4	NZ24-UBXR1	18,750	5/25
61463617520	W220	1 x 1	1/4	NZ24-UBXR1	25,500	5/25
61463616473	W221	1 x 1-1/2	1/4	NZ24-UBXR1	19,120	5/25
61463616475	W222	1 x 2	1/4	NZ24-UBXR1	15,900	5/25

Shank length is 1-1/2". Maximum operating speed based on 1/2" overhang.

## CHARGER MOUNTED POINTS – RESIN BOND

Better Tier / Zirconia Alumina



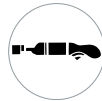
Premium quality mounted points for metal fabricating and foundry applications. 30 grit: deburring, removing weld beads, smoothing and blending welded areas.

### FEATURES

- Self-sharpening 30 grit zirconia alumina abrasive
- Specially formulated organic bond

### BENEFITS

- 35% faster cut rate than standard aluminum oxide
- An aggressive, free cut
- More parts cleaned in less time to substantially increase productivity
- 5X greater life than ordinary aluminum oxide
- Reduces vibration and wheel chatter



A1



A3



A5



A11



W SHAPES

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"A" SHAPES</b>						
61463616458	A1	3/4 x 2-1/2	1/4	Charger	19,800	5/25
61463616460	A3	1 x 2-3/4	1/4	Charger	16,100	5/25
61463616462	A5	3/4 x 1-1/8	1/4	Charger	45,000	5/25
61463616464	A11	7/8 x 2	1/4	Charger	19,860	5/25

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"W" SHAPES</b>						
61463616466	W189	1/2 x 2	1/4	Charger	24,000	5/25
61463616470	W207	3/4 x 1-1/2	1/4	Charger	24,000	5/25
61463616472	W208	3/4 x 2	1/4	Charger	18,750	5/25
61463617521	W220	1 x 1	1/4	Charger	25,500	5/25
61463616474	W221	1 x 1-1/2	1/4	Charger	19,120	5/25
61463616476	W222	1 x 2	1/4	Charger	15,900	5/25

Shank length is 1-1/2". Maximum operating speed based on 1/2" overhang.

### techtip

- Use "A" shapes for medium- to heavy-duty blending
- Use "W" shapes for offhand and precision grinding of medium to heavy stock



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

## FIBER-REINFORCED MOUNTED POINTS – RESIN BOND

Good Tier / Aluminum Oxide



Engineered for blending, polishing, and finishing dies, cavities, etc.

FEATURES	BENEFITS
• Cotton fiber reinforced aluminum oxide	• Ideal for blending and finishing parts without changing geometry
• 80 grit	• For most materials
• 120 grit	• For polishing and stainless steel applications



A11



B52



B121



W SHAPES

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>FOR POLISHING</b>						
61463622664	A11	7/8 x 2	1/4	A80-HBF3	19,860	25/25
61463620242	B52	3/8 x 3/4	1/8	A120-HBF3	45,370	25/25
61463622657	B121	1/2" Ball	1/8	A80-HBF3	45,370	25/25
61463622655	W163	1/4 x 1/2	1/8	A80-HBF3	60,000	25/25
61463622656	W163	1/4 x 1/2	1/8	A120-HBF3	60,000	25/25

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>FOR POLISHING (CONTINUED)</b>						
61463622654	W176	3/8 x 1/2	1/8	A80-HBF3	45,370	25/25
61463622649	W185	1/2 x 1/2	1/8	A80-HBF3	34,500	25/25
61463622651	W187	1/2 x 1	1/8	A80-HBF3	20,620	25/25
61463622646	W220	1 x 1	1/4	A80-HBF3	25,500	25/25

Shank length is 1-1/2". Maximum operating speed based on 1/2" overhang.

## CENTER LAP MOUNTED POINTS – VITRIFIED BOND

Better Tier / Aluminum Oxide Abrasive



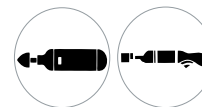
For use on Ex-Cello Center Lap and similar machines to produce accurate centers – precisely angled, truly conical, and free from ridges – for cylindrical grinding.

FEATURES	BENEFITS
• Specially formulated wheel treatment (#5 wood resin)	• Adds lubricity to the point, minimizing risk of metallurgical damage
• Large diameter spindle	• Minimum deflection, rigid support
• Precise dimensional tolerances	• Ensure accurate location of centers

PART #	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>FOR CENTER LAPPING</b>					
61463621421	1/2 x 2**	1/2	A80-VVM	65,000	5/25
61463622926	1 x 2**	1/2	A80-VVM	15,900	5/25

Shank length is 1-1/2". Maximum operating speed based on 1/2" overhang.

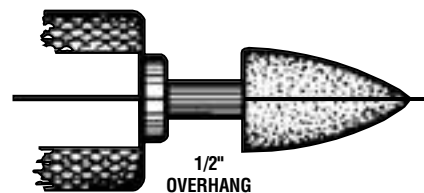
\*\* Pointed 60°.



### techtip

#### DESCRIPTION OF OVERHANG

- Overhang is the distance between the grinder chuck and the abrasive on the spindle. The larger the overhang, the lower the maximum safe operating speed.
- Maximum operating speed is based on 1/2" overhang.
- The standard shank length is 1-1/2".



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



# **GEMINI** MOUNTED POINTS – VITRIFIED BOND

Good Tier / Aluminum Oxide

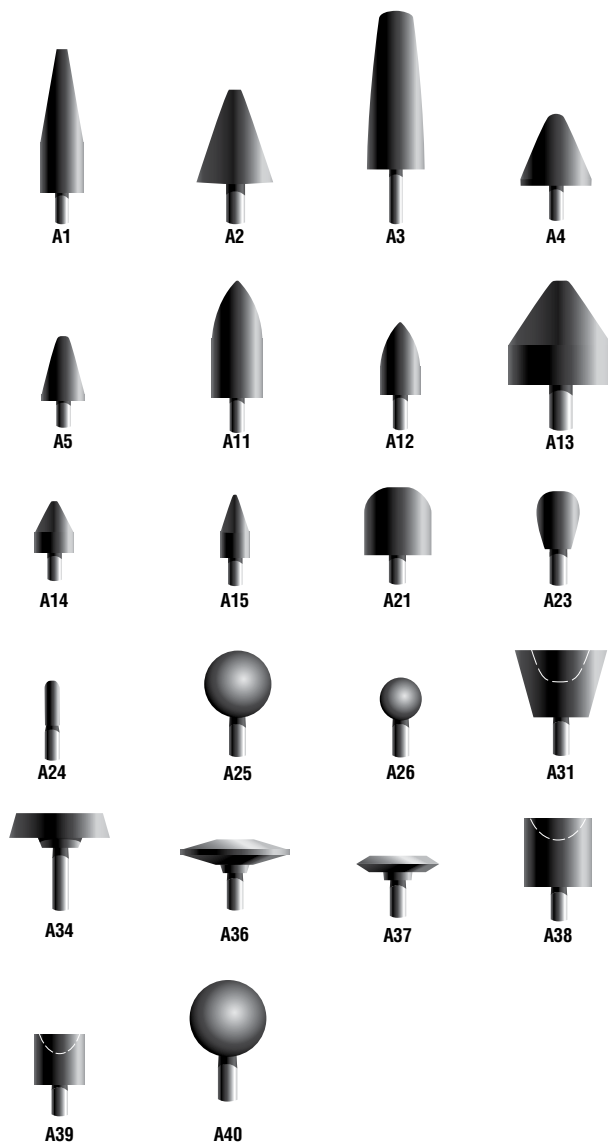


**“A” Shape Applications.** Ideal for general maintenance applications in metal fabrication plants.

**“B” Shape Applications:** Ideal for light deburring of machined parts and for finishing/polishing molds and dies.

**“W” Shape Applications:** Ideal for precision grinding machine parts, molds and dies, involving medium to heavy stock removal.

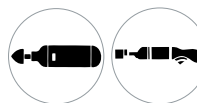
FEATURES	BENEFITS
• Quality 38A aluminum oxide abrasive –  brown color	• Cool cutting, less burn
• Vitrified bond	• Long life • Consistent form holding
• Diverse shapes and sizes	• Ideal when initial price is the main purchasing consideration • Great choice for small job shops



PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>“A” SHAPES – FOR GENERAL MAINTENANCE</b>						
61463624374	A1	3/4 x 2-1/2	1/4	38A36-T	19,800	5/25
61463624375	A1	3/4 x 2-1/2	1/4	38A60-P	19,800	5/25
07660724376	A2	1 x 1/4	1/4	38A60-P	38,200	5/25
61463624377	A3	1 x 2-3/4	1/4	38A36-T	16,100	5/25
61463624378	A3	1 x 2-3/4	1/4	38A60-P	16,100	5/25
61463624380	A4	1-1/4 x 1-1/4	1/4	38A60-P	30,560	5/25
61463624381	A5	3/4 x 1-1/8	1/4	38A36-T	45,000	5/25
61463624382	A5	3/4 x 1-1/8	1/4	38A60-P	45,000	5/25
61463624384	A11	7/8 x 2	1/4	38A36-T	19,860	5/25
61463624385	A11	7/8 x 2	1/4	38A60-P	19,860	5/25
61463624388	A12	11/16 x 1-1/4	1/4	38A60-P	48,000	5/25
61463624389	A13	1-1/8 x 1-1/8	1/4	38A60-P	33,950	5/25
61463624390	A14	11/16 x 7/8	1/4	38A60-P	55,560	5/25
61463624391	A15	1/4 x 1-1/16	1/4	38A60-P	72,750	5/25
61463624392	A21	1 x 1	1/4	38A60-P	34,500	5/25
61463624394	A23	3/4 x 1	1/4	38A60-P	39,370	5/25
61463624395	A24	1/4 x 3/4	1/4	38A60-P	76,500	5/25
61463624396	A25	1" Ball	1/4	38A60-P	35,620	5/25
61463624397	A26	5/8" Ball	1/4	38A60-P	61,120	5/25
61463624399	A31	1-3/8 x 1	1/4	38A60-P	27,780	5/25
61463624402	A34	1-1/2 x 3/8	1/4	38A60-P	25,470	5/25
61463624404	A36	1-5/8 x 3/8	1/4	38A60-P	23,520	5/25
61463624405	A37	1-1/4 x 1/4	1/4	38A60-P	30,560	5/25
61463624406	A38	1 x 1	1/4	38A60-P	34,500	5/25
61463624407	A39	3/4 x 3/4	1/4	38A60-P	47,250	5/25
61463624408	A40	3/4" Ball	1/4	38A60-P	47,250	5/25

Standard shank size is 1/4" x 1-1/2".

Maximum operating speed based on 1/2" overhang.

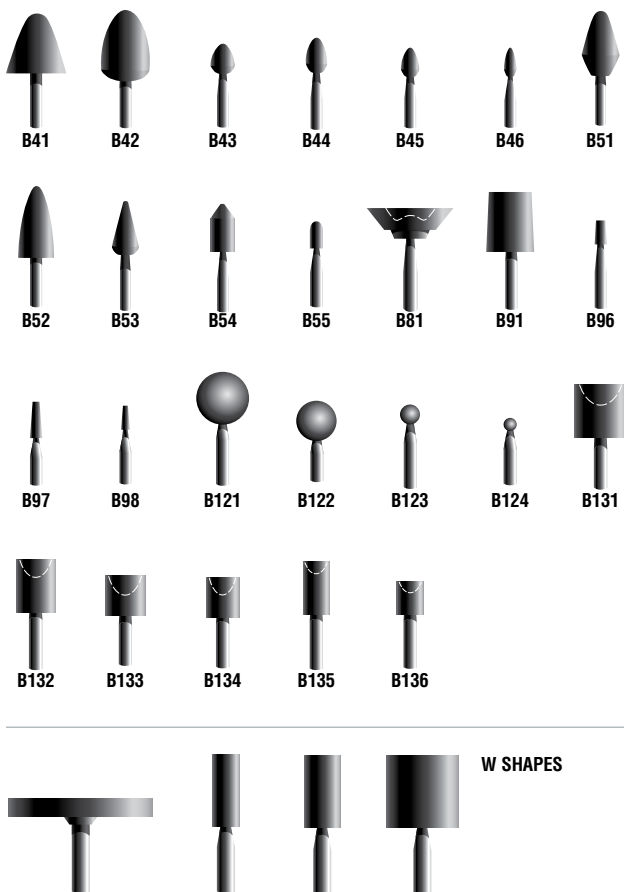


# **GEMINI MOUNTED POINTS – VITRIFIED BOND** [CONTINUED]

Good Tier / Aluminum Oxide

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"B" SHAPES – FOR LIGHT DEBURRING AND FINISHING</b>						
61463624410	B41	5/8 x 5/8	1/8	38A60-P	33,570	5/25
61463624412	B42	1/2 x 3/4	1/8	38A60-P	33,570	5/25
61463624413	B43	1/4 x 5/16	1/8	38A60-P	81,370	5/25
61463624414	B44	7/32 x 3/8	1/8	38A60-P	68,400	5/25
61463624415	B45	3/16 x 5/16	1/8	38A60-P	104,250	5/25
61463624416	B46	1/8 x 5/16	1/8	38A60-P	105,000	5/25
61463624418	B51	7/16 x 3/4	1/8	38A60-P	45,370	5/25
61463624420	B52	3/8 x 3/4	1/8	38A60-P	45,370	5/25
61463624419	B52	3/8 x 3/4	1/4	38A60-P	81,000	5/25
61463624422	B52	3/8 x 3/4	1/8	38A90-Q	45,370	5/25
61463624423	B53	5/16 x 5/8	1/8	38A60-P	60,000	5/25
61463624424	B54	1/4 x 1/2	1/8	38A60-P	60,000	5/25
61463624425	B55	1/8 x 1/4	1/8	38A60-P	105,000	5/25
61463624437	B81	3/4 x 3/16	1/8	38A60-P	50,930	5/25
61463624443	B91	1/2 x 5/8	1/8	38A60-P	34,500	5/25
61463624448	B96	1/8 x 1/4	1/8	38A60-P	105,000	5/25
61463624449	B96	1/8 x 1/4	1/8	38A90-Q	105,000	5/25
61463624451	B97	1/8 x 3/8	1/8	38A60-P	105,000	5/25
61463624452	B98	3/32 x 1/4	1/8	38A60-P	105,000	5/25
61463624466	B121	1/2" Ball	1/8	38A60-P	45,370	5/25
61463624470	B122	3/8" Ball	1/8	38A60-P	61,650	5/25
61463624471	B122	3/8" Ball	1/8	38A90-Q	61,650	5/25
61463624472	B123	3/16" Ball	1/8	38A60-P	104,250	5/25
61463624474	B124	1/8" Ball	1/8	38A90-Q	105,000	5/25
61463624475	B131	1/2 x 1/2	1/8	38A60-P	34,500	5/25
61463624479	B132	3/8 x 1/2	1/8	38A60-P	45,370	5/25
61463624481	B133	3/8 x 3/8	1/8	38A60-P	54,000	5/25
61463624482	B134	5/16 x 3/8	1/8	38A60-P	61,650	5/25
61463624484	B135	1/4 x 1/2	1/8	38A60-P	60,000	5/25
61463624485	B136	1/4 x 5/16	1/8	38A60-P	77,250	5/25

Shank length is 1-1/2". Maximum operating speed based on 1/2" overhang.



PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"W" SHAPES – FOR MEDIUM TO HEAVY STOCK REMOVAL</b>						
61463624488	W144	1/8 x 1/4	1/8	38A60-P	105,000	5/25
61463624489	W145	1/8 x 3/8	1/8	38A60-P	105,000	5/25
61463624491	W146	1/8 x 1/2	1/8	38A60-P	105,000	5/25
61463624495	W152	3/16 x 1/4	1/8	38A60-P	105,000	5/25
61463624496	W153	3/16 x 3/8	1/8	38A60-P	80,850	5/25
61463624497	W154	3/16 x 1/2	1/8	38A60-P	70,500	5/25
61463624501	W160	1/4 x 1/4	1/8	38A60-P	81,370	5/25
61463624503	W162	1/4 x 3/8	1/8	38A60-P	64,800	5/25
61463624504	W163	1/4 x 1/2	1/8	38A60-P	60,000	5/25
61463624505	W164	1/4 x 3/4	1/8	38A60-P	45,900	5/25
61463624511	W170	5/16 x 1/2	1/8	38A60-P	52,500	5/25
61463624516	W175	3/8 x 3/8	1/8	38A60-P	54,000	5/25
61463624517	W176	3/8 x 1/2	1/8	38A60-P	45,370	5/25
61463624518	W177	3/8 x 3/4	1/8	38A60-P	33,750	5/25
61463624525	W185	1/2 x 1/2	1/8	38A60-P	34,500	5/25
61463624526	W185	1/2 x 1/2	1/4	38A60-P	61,500	5/25
61463624528	W186	1/2 X 3/4	1/4	38A60-P	51,000	5/25
61463624530	W188	1/2 x 1-1/2	1/4	38A60-P	30,370	5/25
61463624531	W189	1/2 x 2	1/4	38A60-P	24,000	5/25

PART #	SHAPE	SIZE D X L	SPINDLE	GRADING	MAX. RPM	MIN/STD PKG.
<b>"W" SHAPES – FOR MEDIUM TO HEAVY STOCK REMOVAL</b>						
61463624539	W196	5/8 x 1	1/4	38A60-P	35,250	5/25
61463624543	W200	3/4 x 1/8	1/8	38A60-P	50,930	5/25
61463624544	W200	3/4 x 1/8	1/8	38A90-Q	50,930	5/25
61463624549	W204	3/4 x 3/4	1/4	38A60-P	42,750	5/25
61463624550	W205	3/4 x 1	1/4	38A60-P	34,500	5/25
61463624553	W208	3/4 x 2	1/4	38A60-P	18,750	5/25
61463624560	W215	1 x 1/8	1/8	38A60-P	38,200	5/25
61463624562	W216	1 x 1/4	1/4	38A60-P	38,200	5/25
61463624564	W218	1 x 1/2	1/4	38A60-P	38,200	5/25
61463624566	W220	1 x 1	1/4	38A60-P	25,500	5/25
61463624567	W221	1 x 1-1/2	1/4	38A60-P	19,120	5/25
61463624569	W222	1 x 2	1/4	38A60-P	15,900	5/25
61463624578	W230	1-1/4 x 1-1/4	1/4	38A60-P	20,400	5/25
61463624583	W235	1-1/2 x 1/4	1/4	38A60-P	25,470	5/25
61463624585	W236	1-1/2 x 1/2	1/4	38A60-P	25,470	5/25
61463624587	W237	1-1/2 x 1	1/4	38A60-P	22,500	5/25
61463624588	W238	1-1/2 x 1-1/2	1/4	38A60-P	15,600	5/25
61463624592	W242	2 x 1	1/4	38A60-P	19,100	5/25

Shank length is 1-1/2". Maximum operating speed based on 1/2" overhang.



## **techtip**

For best mounted point performance, always run the mounted point at the maximum allowable speed according to ANSI B7.1.

- Use 36 grit for rough grinding.
- Use 60 grit for imparting fine finishes or when grinding on narrow surfaces.



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

## COMBINATION GRIT ABRASIVE SHARPENING STONES

Good Tier / Silicon Carbide or Aluminum Oxide

**CARBO™**



Silicon carbide combination benchstones have both coarse and fine grit silicon carbide surfaces. These fast-cutting stones are used to sharpen edges on tools to moderate tolerances quickly. Dark gray in color. Aluminum oxide combination benchstones have both coarse and fine grit aluminum oxide abrasive surfaces to produce strong, keen, long-lasting edges on quality tools. Orange/brown in color.

FEATURES	BENEFITS
• Sharp, silicon carbide abrasive	• Enhanced cutting action
	• Fast stock removal
• Aluminum oxide abrasive	• Fast, cool cutting action
	• Maintains high part tolerance
• Vitrified bond	• Long life and excellent form holding

PART #	PRODUCT #	SIZE	GRIT SIZE	QTY. PKG./ CASE
<b>CRYSTOLON (SILICON CARBIDE)</b>				
05539509128	JB6	6 x 2 x 1	Coarse/Fine	1/5
05539509126	JB8	8 x 2 x 1	Coarse/Fine	1/5
<b>INDIA (ALUMINUM OXIDE)</b>				
05539509107	IB6	6 x 2 x 1	Coarse/Fine	1/5
05539509105	iB8	8 x 2 x 1	Coarse/Fine	1/5



## DRESSING AND FINISHING STICKS

Good Tier / Silicon Carbide or Aluminum Oxide

**CARBO™**



Aluminum oxide dressing sticks work best on cBN grinding wheels, but can also be used on diamond grinding wheels.

Silicon carbide dressing sticks in coarse grit sizes and hard grades are used for dressing conventional vitrified wheels. Silicon carbide dressing sticks in fine grit sizes and softer grades are used for dressing diamond wheels.

FEATURES	BENEFITS
• Aluminum oxide abrasive – white	• Free dressing action
• Silicon carbide abrasive – black	• Sharp, durable
• Vitrified bond	• Excellent conformability

PART #	SIZE THICKNESS X WIDTH X LENGTH	GRIT SIZE	QTY. PKG./ CASE
<b>ALUMINUM OXIDE</b>			
05539507214	3/4 x 3/4 x 4	AA150-HV40	5
05539507211	1/2 x 1/2 x 6	AA220-HV40	5
05539507232	1 x 1 x 6	AA220-HV40	5
<b>SILICON CARBIDE</b>			
05539507224	1 x 1 x 6	C220-KVGC	5



### techtip

Selecting the appropriate dressing stick for each application depends on the wheel size, type, speed, grit size, and specification, as well as the work piece material. Initial starting specifications are listed below.

- For Resin Bond Diamond and cBN Wheels: Choose a dressing stick one or two grit sizes finer than the abrasive in the wheel – in a soft grade (H or I). Example: for a 100 or 120 grit resin bond wheel, choose a 150 grit dressing stick, and for a 150 or 220 grit resin bond wheel, choose a 220 grit dressing stick



## MEDALIST SINGLE POINT DIAMOND DRESSING TOOLS

Good Tier / For Ceramic Wheels

CARBO™  
**MEDALIST™**



Designed to dress and true harder ceramic toolroom wheels.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>• Specially selected broad-shaped, diamond</li> <li>• Each diamond is hand selected for stone shape, quality and structural integrity</li> <li>• Multi-purpose</li> </ul>	<ul style="list-style-type: none"> <li>• Withstands the increased grinding pressures of ceramic abrasives</li> <li>• Consistent tool performance</li> <li>• Accommodate most straight dressing and simple form dressing applications</li> <li>• Stand up to ceramic abrasive sharpness; can also be used to dress conventional abrasives</li> </ul>

PART #	PRODUCT #	FOR WHEEL DIAMETER	TOOL CARAT WEIGHT	TOOL DIAMETER	TOOL LENGTH
<b>SINGLE POINT TOOLS FOR TRUING/DRESSING CERAMIC WHEELS (NON RESETTABLE)</b>					
07958787451	MED2M6	Up to 7"	1/4 (0.25)	3/8"	2"
07958787452	MED2M7	Up to 7"	1/4 (0.25)	7/16"	2"
07958787453	MED3M6	8" to 10"	1/3 (0.33)	3/8"	2"
07958787454	MED3M7	8" to 10"	1/3 (0.33)	7/16"	2"
07958787455	MED5M6	11" to 14"	1/2 (0.50)	3/8"	2"
07958787456	MED5M7	11" to 14"	1/2 (0.50)	7/16"	2"

### WHEEL FORMS DRESSED BY THESE TOOLS



## SINGLE POINT DIAMOND DRESSING TOOLS

Good Tier / For Aluminum Oxide Wheels

CARBO™

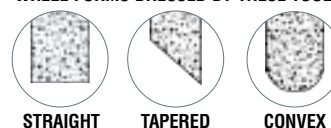


Designed to dress and true conventional aluminum oxide toolroom wheels.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>• Consistent diamond structure and shape</li> <li>• Well defined, sharp diamond point</li> <li>• Steeper 60 degree included angle head design</li> </ul>	<ul style="list-style-type: none"> <li>• Repeatable dressing performance</li> <li>• Durable; maximum cost effectiveness for dressing conventional abrasives</li> <li>• Greater machine and part clearance produce forms with tighter tolerances</li> </ul>

PART #	PRODUCT #	FOR WHEEL DIAMETER	TOOL CARAT WEIGHT	TOOL DIAMETER	TOOL LENGTH
<b>SINGLE POINT TOOLS FOR TRUING/DRESSING ALUMINUM OXIDE WHEELS (NON RESETTABLE)</b>					
07958787457	CA2-6	Up to 7"	1/4 (0.25)	3/8"	2"
07958787458	CA2-7	Up to 7"	1/4 (0.25)	7/16"	2"
07958787459	CA3-6	8" to 10"	1/3 (0.33)	3/8"	2"
07958787461	CA3-7	8" to 10"	1/3 (0.33)	7/16"	2"
07958787462	CA5-6	11" to 14"	1/2 (0.50)	3/8"	2"
07958787463	CA5-7	11" to 14"	1/2 (0.50)	7/16"	2"

### WHEEL FORMS DRESSED BY THESE TOOLS

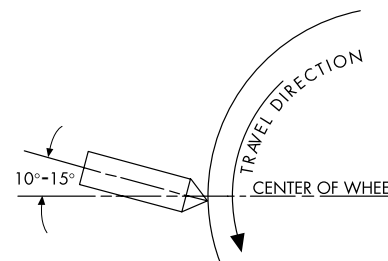


### techtip

#### SINGLE-POINT TOOLS

- Rigidly mount single point tools at a 10° - 15° angle to the wheel centerline with a line drawn through the center of the wheel, pointing in the direction of wheel travel.
- Point of contact should be slightly below centerline of wheel as shown.
- Use coolant whenever possible.
- Normal infeed is .001" per pass.
- Lead selections range from .002" - .010" per wheel revolution.
- Rotate the tool 1/4 turn periodically to maintain a sharp point.

To optimize applications using ceramic abrasives and/or tools, normal dressing parameters must change. Reduce infeed by 25%. Significant reductions in the amount of infeed and frequency of dress will result in substantially lower cost per part ground.



## MEDALIST MULTI-POINT DIAMOND DRESSING TOOLS

Best Tier / For Ceramic Wheels

CARBO™  
**MEDALIST™**

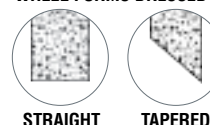


Multi-Point tools for ceramic toolroom wheels include a higher concentration of diamonds to withstand the increased diamond pressure generated by ceramic wheels.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Uniformly distributed diamonds in a tough, durable matrix</li> <li>Fresh, multiple diamond points exposed in truing operation; no turning or resetting required</li> <li>Overall diamond weight exceeds equivalent single point tool</li> </ul>	<ul style="list-style-type: none"> <li>Consistent performance throughout tool life</li> <li>Faster, more consistent straight face dressing with maximum efficiency and longer tool life than single point tools</li> <li>The most economical way to dress straight and tapered forms</li> </ul>

PART #	PRODUCT #	FOR WHEEL DIAMETER	WHEEL GRIT SIZE	TOOL DIAMETER	APPROACH ANGLE
<b>MULTI-POINT TOOLS FOR TRUING/DRESSING CERAMIC WHEELS</b>					
07958787464	MED1R6J7	Up to 10"	54 to 100	7/16"	0 degrees
07958787465	MED2R6K7	11" to 14"	54 to 100	7/16"	0 degrees

### WHEEL FORMS DRESSED BY THESE TOOLS



## MULTI-POINT DIAMOND DRESSING TOOLS

Good Tier / For Aluminum Oxide Wheels

CARBO™

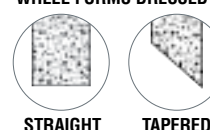


Multi-Point tools for aluminum oxide toolroom wheels are the ideal selection of general purpose tools for use on conventional abrasives on a broad range of dressing applications.

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>Uniformly distributed diamonds in a tough, durable matrix</li> <li>Fresh, multiple diamond points exposed in truing operation; no turning or resetting required</li> <li>Overall diamond weight exceeds equivalent single point tool</li> </ul>	<ul style="list-style-type: none"> <li>Consistent performance throughout tool life</li> <li>Faster, more consistent straight face dressing with maximum efficiency and longer tool life than single point tools</li> <li>The most economical way to dress straight and tapered forms</li> </ul>

PART #	PRODUCT #	FOR WHEEL DIAMETER	WHEEL GRIT SIZE	TOOL DIAMETER	APPROACH ANGLE
<b>MULTI-POINT TOOLS FOR TRUING/DRESSING ALUMINUM OXIDE WHEELS</b>					
07958787466	CA64	Up to 10"	54 to 100	7/16"	0 degrees
07958787467	CA65	11" to 14"	54 to 100	7/16"	0 degrees

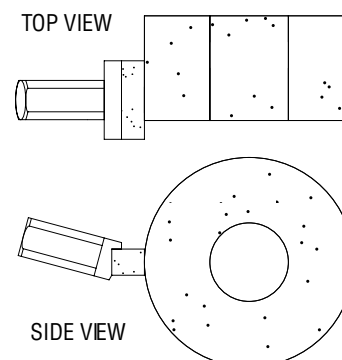
### WHEEL FORMS DRESSED BY THESE TOOLS



### techtip

#### MULTI-POINT TOOLS – STRAIGHT FACE DRESSING AND TRUING

- Most multi-point tools are used for straight face dressing.
- Tool should have full face contact with the wheel.
- With new tool, 3–5 passes at .005" per pass should be taken to expose diamonds.
- Infeed per pass .001" - .002"
- Use coolant whenever possible.
- Use appropriate lead (and traverse rate).



## BONDED ABRASIVE BASICS

### HOW TO READ A BONDED ABRASIVE SPECIFICATION

**Wheel Symbols and Markings:** Carborundum abrasive wheels are marked according to the system which is standard throughout the industry. This standard marking system consists of six positions. The characters in each position denote a specific characteristic of the wheel.

### BONDED ABRASIVE TERMINOLOGY KEY

Position 1	Position 2	Position 3	Position 4	Position 5	Position 6
AA	46	K	8	V	40
ABRASIVE	GRIT SIZE	GRADE	STRUCTURE	BOND TYPE	BOND MODIFICATION
MEDALIST - BLUE CERAMIC ALUMINA	COARSE MEDIUM FINE	E SOFT	1 DENSE	V - VITRIFIED	40
MEDALIST R- PURPLE CERAMIC ALUMINA	14 46 220	F	2	B - RESINOID	P = Porous
MZ - CERAMIC ALUMINA/ZA BLEND	16 54 240	G	3	RR - RUBBER	
32AR - GRAY/PURPLE ALUMINUM OXIDE	20 60 280	H	4		
38A - ALUMINUM OXIDE	24 70 320	I	5		
A - ALUMINUM OXIDE	30 80 400	J	6		
AA - WHITE ALUMINUM OXIDE	36 100 600	K	8		
AR - RUBY ALUMINUM OXIDE	120 800	L	9		
AZ - ZA/AO BLEND	150 900	M	10		
BA - ALUMINUM OXIDE		N	11		
DA - GRAY ALUMINUM OXIDE BLEND		O	12		
GA - ALUMINUM OXIDE		P			
GRA - GA/RA BLEND		Q			
PA - PINK ALUMINUM OXIDE		R			
RA - PINK/PURPLE ALUMINUM OXIDE		S			
RGA - ALUMINUM OXIDE		T			
37C - BLACK SILICON CARBIDE		U			
C - BLACK SILICON CARBIDE		V			
CA - BLACK SILICON CARBIDE					
CGA - ALUMINUM OXIDE/SILICON CARBIDE BLEND					
DAC - ALUMINUM OXIDE/SILICON CARBIDE BLEND					
GC - GREEN SILICON CARBIDE					
Z - ZIRCONIA ALUMINA					
AZA - ZA/AO BLEND					
ZA - ZA/AO BLEND					
2ZA - ZA/GA BLEND					
2ZC - ZA/C BLEND					
3AZA - ZIRCONIA ALUMINA/ALUMINUM OXIDE BLEND					
3ZA - ZIRCONIA ALUMINA/ALUMINUM OXIDE BLEND					
NORZON - PREMIUM ZIRCONIA ALUMINA					
PR - ZIRCONIA ALUMINA					
CHARGER - ZIRCONIA ALUMINA					



### WHEEL SPEEDS – CONVERSION TABLE

Example: Find the machine RPMs. This should be written on the machine itself. For this example, assume that the machine RPM is 1,773 and that the wheel diameter is 14".

- Find the diameter of 14" in either the left-most or right-most column of the chart.
- Follow the row horizontally to RPM of 1,773 as this is the spindle speed of the machine.
- Follow column directly upwards to find SFPM of 6,500.

	SURFACE SPEED IN FEET PER MINUTE (SFPM)																
	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500	9,000	9,500	10,000	12,000	12,500	14,200	16,000
REVOLUTIONS PER MINUTE (RPM)																	
1"	15,279	17,189	19,098	21,008	22,918	28,647	24,828	26,737	30,558	32,467	34,377	36,287	38,196	45,836	47,745	54,240	61,116
2"	7,639	8,594	9,549	10,504	11,459	14,328	12,414	13,368	15,278	16,238	17,188	18,143	19,098	22,918	23,875	27,120	30,558
3"	5,093	5,729	6,366	7,003	7,639	9,549	8,276	8,913	10,186	10,822	11,459	12,096	12,732	15,278	15,915	18,080	20,372
4"	3,820	4,297	4,775	5,252	5,729	6,207	6,685	7,162	7,640	8,116	8,595	9,072	9,549	11,459	11,940	13,560	15,278
5"	3,056	3,438	3,820	4,202	4,584	4,966	5,348	5,720	6,112	6,494	6,876	7,258	7,640	9,168	9,550	10,850	12,224
6"	2,546	2,865	3,183	3,501	3,820	4,138	4,456	4,775	5,092	5,411	5,729	6,048	6,366	7,639	7,960	9,040	10,186
7"	2,183	2,455	2,728	3,001	3,274	3,547	3,820	4,092	4,366	4,638	4,911	5,183	5,456	6,548	6,820	7,750	8,732
8"	1,910	2,148	2,387	2,626	2,865	3,103	3,342	3,580	3,820	4,058	4,297	4,535	4,775	5,729	5,970	6,780	7,640
9"	1,698	1,910	2,122	2,334	2,546	2,758	2,970	3,182	3,396	3,606	3,820	4,032	4,244	5,092	5,305	6,030	6,792
10"	1,528	1,719	1,910	2,101	2,292	2,483	2,674	2,865	3,056	3,247	3,438	3,629	3,820	4,584	4,775	5,425	6,112
12"	1,273	1,432	1,591	1,751	1,910	2,069	2,228	2,386	2,546	2,705	2,864	3,023	3,183	3,820	3,980	4,520	5,092
14"	1,091	1,228	1,364	1,500	1,637	1,773	1,910	2,046	2,182	2,319	2,455	2,592	2,728	3,274	3,410	3,875	4,366
16"	955	1,074	1,194	1,313	1,432	1,552	1,672	1,791	1,910	2,029	2,149	2,268	2,387	2,865	2,985	3,390	3,820
18"	849	955	1,061	1,167	1,273	1,379	1,485	1,591	1,698	1,803	1,910	2,016	2,120	2,546	2,655	3,015	3,396
20"	764	859	955	1,050	1,146	1,241	1,337	1,432	1,528	1,623	1,719	1,814	1,910	2,292	2,390	2,715	3,056
22"	694	781	868	955	1,042	1,128	1,215	1,303	1,388	1,476	1,562	1,649	1,736	2,084	2,170	2,465	2,776
24"	637	716	796	875	955	1,034	1,115	1,194	1,274	1,353	1,433	1,512	1,591	1,910	1,990	2,260	2,546
26"	588	661	734	808	881	955	1,028	1,101	1,176	1,248	1,322	1,395	1,468	1,762	1,840	2,090	2,352
28"	546	614	682	750	818	887	955	1,023	1,092	1,159	1,228	1,296	1,364	1,637	1,705	1,940	2,182
30"	509	573	637	700	764	828	891	955	1,018	1,082	1,146	1,210	1,274	1,528	1,595	1,810	2,056

**Note:** The calculated RPM figures listed above are rounded off to the next higher 5 for wheel marking purposes. For intermediate diameters not listed, use the formula listed in Section 1.2, 10 of ANSI B7.1 (SFPM = .262 x wheel diameter in inches x RPM) **Note:** SFPM ÷ 1.676 = m/s (meters per second)

## BONDED ABRASIVE BASICS

### ABRASIVE GRAINS

The abrasive grains (ceramic alumina, zirconia alumina, aluminum oxide and silicon carbide) perform the cutting action. An ideal grinding abrasive has the ability to fracture before serious dulling occurs and offers maximum resistance to point wear. Each abrasive has special crystal structure and fracture characteristics, making it suitable for grinding operations on specific materials.

#### Medalist – Ceramic Alumina

A superior performing grain for high temperature alloys such as Inconel, Waspalloy and Haspalloy, hardened tool steels, spray metal or Stellite and other hardened steels.

#### Zirconia Alumina

A tough, sharp abrasive designed for optimum performance in cut-off wheels, snagging wheels and depressed center wheels for grinding or cutting cast steel, alloy steel, and malleable and ductile iron.

#### Aluminum Oxide

A tough, sharp grain produced under controlled conditions and especially adapted to grinding or cutting materials of high tensile strength, such as alloy steel, high speed steel, annealed, malleable iron, and tough bronze.

#### Silicon Carbide

This is a very hard, sharp abrasive grain used in the grinding of tungsten carbide and low tensile strength materials such as cast iron, bronze, aluminum, copper, and non-metallic materials such as plastics, glass, marble, granite and stone.



### GRADE

The grade is the strength of bonding of a grinding wheel, and is frequently referred to as its hardness. The higher the letter designation, the stronger the bond.

### WHEEL STRUCTURES

Wheel structures (the spacing between grain particles) range from open to dense and vary with different grinding operations, depending upon the area of contact and type of material being ground, rate of stock removal and finish required. Carborundum offers standard structure wheels that will perform well on a wide range of materials.

### BONDS

The purpose of the bonding material is to hold the abrasive grain particles together.

#### Vitrified Bonds

Vitrified wheels have a glass bond composition. Vitrified wheels hold form extremely well and produce a high ratio of stock removal to wheel use. Vitrified wheels are commonly used for precision grinding in the tool and die market.

#### Porosity

Vitrified wheels can be manufactured with induced porosity. All vitrified bonds that end in P (VLP, V40P, VPP) indicate induced porosity. This porosity allows excellent coolant flow and chip clearance. For materials that load or for wide surface area contact, this provides a cooler cutting action, less loading and less chance of burn on the workpiece.

#### Resinoid Bonds

Resinoid, or organic compound, bonds are more shock resistant than vitrified bonds and are generally operated at higher peripheral speeds. Most resinoid bond wheels are used for fast stock removal in the metal fabrication and foundry markets.

## PROCEDURES FOR PROPER HANDLING AND STORAGE OF BONDED ABRASIVE PRODUCTS

### HANDLING

All grinding wheels are relatively fragile and must be handled with care. This applies to all types of bonds: vitrified, resinoid and rubber.

#### Do:

- Inspect all wheels upon receipt.
- Use pallets or trucks to transport.
- Support firmly at all times.
- Place wheels carefully in racks.

#### Do Not:

- Leave wheels packed in absorbent material.
- Roll wheels on floor.
- Lean wheel against equipment.
- Place tools or parts on top of wheels.

### STORAGE

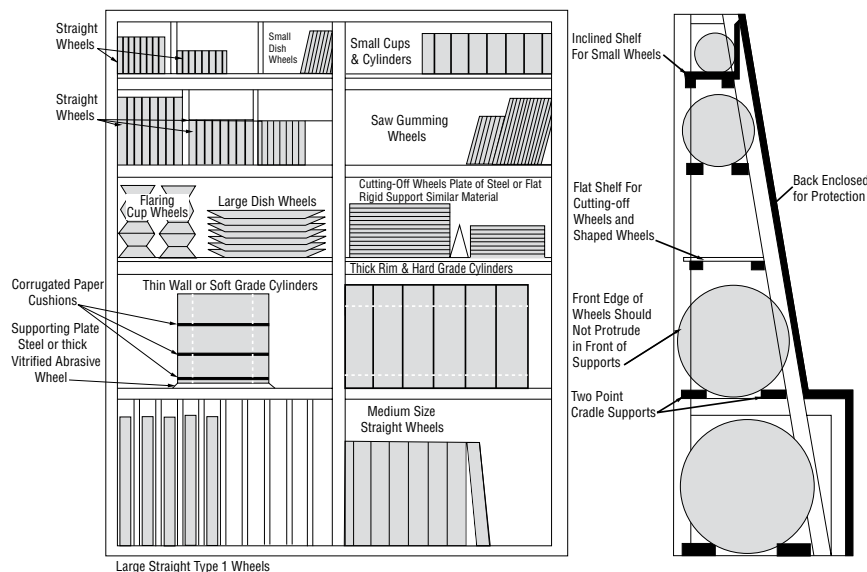
Suitable racks, cradles and drawers should be provided to store the various types of wheels used.

#### Do:

- Store wheels correctly supported.
- Stack thin wheels flat.
- Ensure storage in dry conditions.

#### Do Not:

- Store in damp or humid conditions.
- Subject wheels to dramatic change in temperature.
- Subject wheels to temperatures at or approaching freezing.



THIS DRAWING ILLUSTRATES A RACK DESIGN WHICH IS SUITABLE FOR SAFELY STORING A WIDE VARIETY OF ABRASIVE WHEELS.