



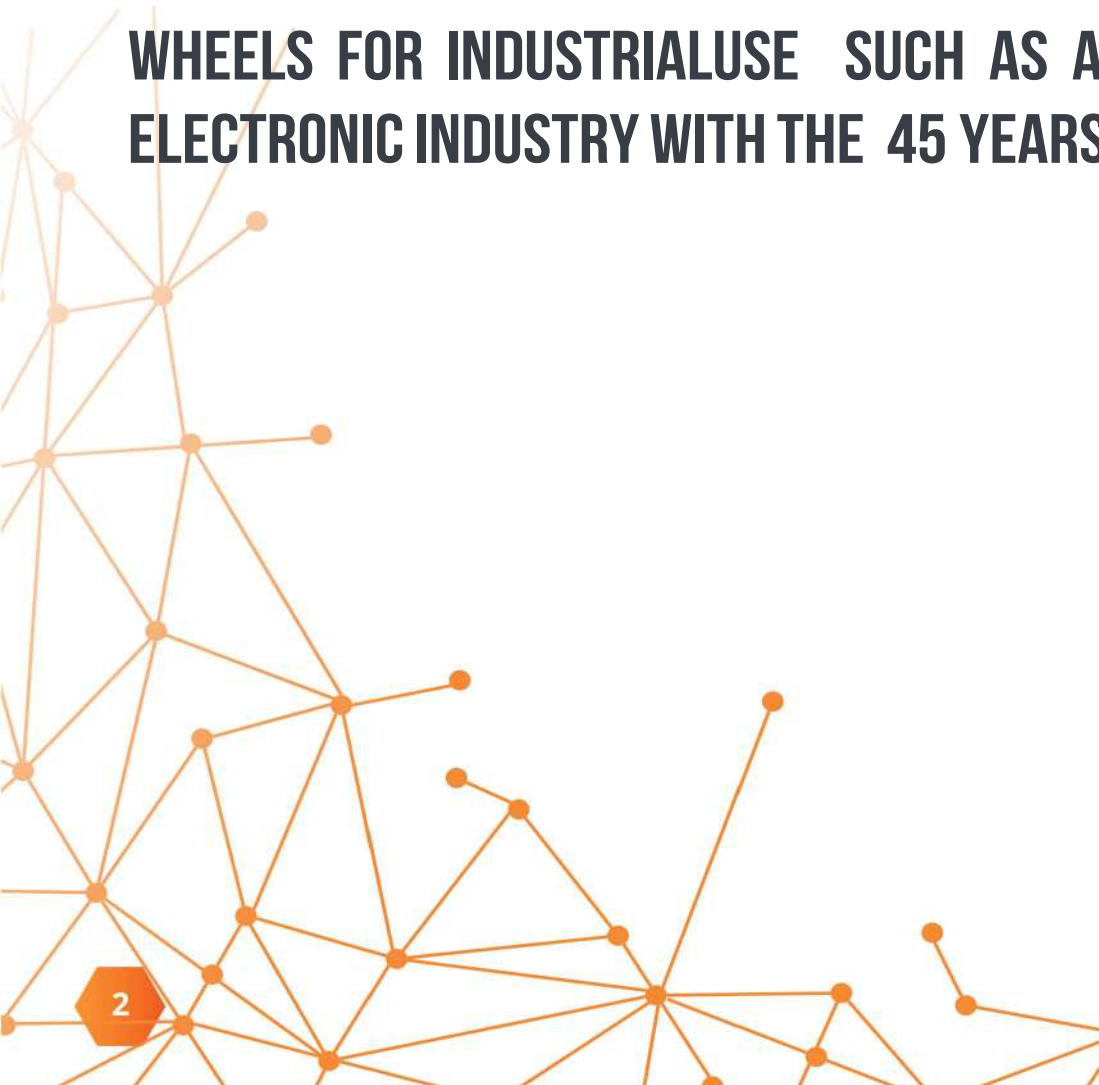
SL. Carborundum

www.slcarborundum.com





“SL. CARBORUNDUM (THAILAND) CO.,LTD.”
IS THAILAND’S LEADING MANUFACTURER FOR GRINDING
WHEELS FOR INDUSTRIAL USE SUCH AS AUTOMOTIVE AND
ELECTRONIC INDUSTRY WITH THE 45 YEARS EXPERIENCE.





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INTRODUCTION



ABOUT US

SL. CARBORUNDUM (THAILAND) CO., LTD. is a specialized company in Thailand that primarily manufacture abrasive products and application engineer. Since its establishment in 1973.

SL. CARBORUNDUM (THAILAND) CO., LTD. has pro-vided grinding wheels for production such as centerless grinding, cylindrical grinding, internal grinding, surface and external grinding, roller grinding etc. Our grinding wheels are manufacture under ISO 9001:2015 Standard and are in complied to ANSI, JIS and FEPA standards.

Lamlukka Factory

The first factory which is operated since we establishe our company in 1973. With 2,000 sqm. working area.

Now, they still work hard to produce Tool room grinding wheel, oil stone, combination stone, rice polishing stone and Honing stone to local and export markets.



SL. CARBORUNDUM (THAILAND) CO.,LTD.
Chonburi, Thailand

Panthong Factory

With the experience of ATC abrasive Consultant CO.,LTD. who design our new factory and production layout to meet the world's standard of Grinding wheel factory. Our second factory





Sales Office Representative

To provide an information to our customers both local and export and also delivery grinding wheel which be ordered. This place is not only be our CRC (Customer Relationship Center) but also be our training center for our sales representative and the customers who required.



World Exhibition Joined

For the export market, we always have in every years.



Quality Control Laboraty

For the best quality control. We are provided the ISO's standard laboratory to prepare the systematic of grinding wheels processes test both physical and chemical property.

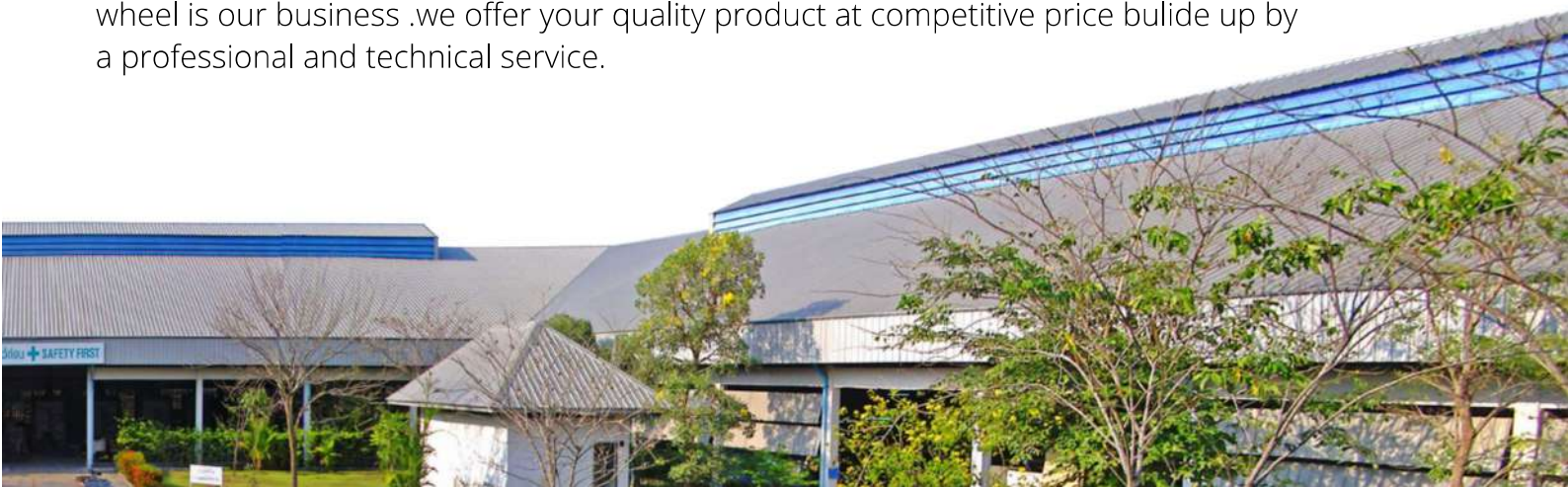
WHAT WE DO

The product range in extension and covers conventional CERAMIC Superabrasives.

- General Purpose
- Cylindrical Grinding
- Internal Grinding
- Camshaft Grinding
- Roll Grinding
- Surface Grinding

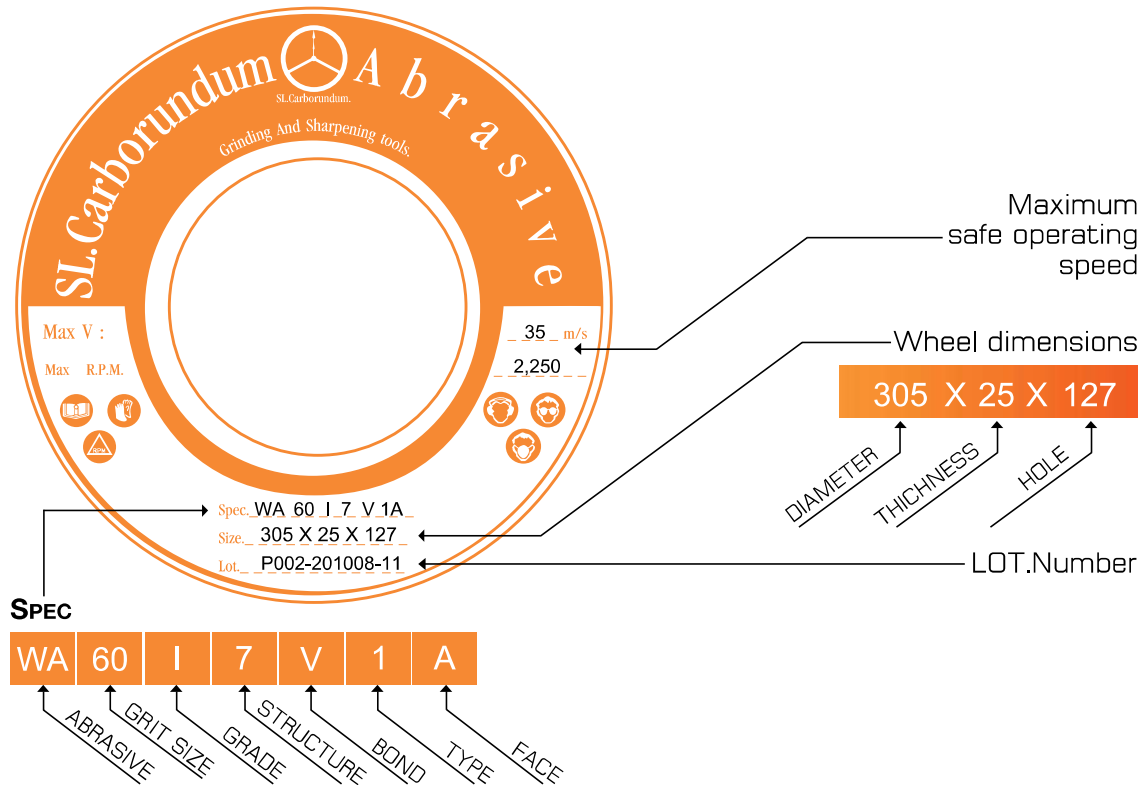
- Centerless Grinding
- Crankshaft Grinding
- Tools Room Grinding
- Saw Sharpening Wheel
- Thread Grinding
- Glass Grinding

If grinding wheel is your business ,then talk to us about your application, grinding wheel is our business .we offer your quality product at competitive price bulide up by a professional and technical service.





STANDARD WHEEL MARKINGS



TYPES OF ABRASIVES

Abrasive	Abrasive denotation	Properties	Major Application
Brown Aluminum Oxide	"A"	Very tough abrasive	Used for heavy duty work such as snagging steel casting and for stock removal in cylindrical grinding, on all but the hardest and most heat-sensitive steels like low alloy steel, cast cast steel and rough grinding applications.
White Aluminum Oxide	"WA"	More friable than Brown Aluminium Oxide. This is also a coolcutting grain.	WA is used for light grinding of all kind of hard, heat-sensitive steels. It is excellent for tool room grinding, sharpening of high speed steel, cast alloy tools like hardend steel, H.S.S., Tool steels S.S (400 series) and chrome plated material. It is also recommended for cylindrical, surface and internal grinding applications of tools, dies and gauges.



Abrasive	Abrasive denotion	Properties	Major Application
Mixture of brown and white aluminium oxide	"64A"	64A is a blend of brown or regular A and white WA and therefore, has intermediate grinding actions.	Used in applications where high stock removal rate with less thermal damage and better form holding is required. E.g. : Cylindrical plain and angular head grinding, camlobe grinding, Inner ring track grinding, bore grinding.
Pink Aluminium oxide	"PA"	PA (Pink)-Chromic oxide alloyed with Brown Regular alumina give a darker pink abrasive, which is very sharp and less friable than white	Very cool cutting, retains better form and a sharp cutting edge for a longer time. Used for bore grinding, cylindrical and some specialised precision applications, good on tool steel, H.S.S. applications where protecting components from thermal damage is of critical importance.
Pink aluminium oxide	"PWA"	PA (Pink)-Chromic oxide alloyed white aluminium gives a pink abrasive. Free cutting properties, slightly tougher and less friable than white aluminium oxide. Very hard and more friable than Aluminium oxide	Excellent for dry grinding in tool sharpening and tool room grinding applications. Very cool cutting and sharp on 5% to 10% cobalt steels, Alloyed HSS and on difficult-to-grind materials. A popular abrasive and cost effective for tool room applications.
Black silicon carbide	"C"	Very hard and more friable than Aluminium oxide	It is used for general grinding, heavy duty snagging, cylindrical, centreless and internal grinding. With specialised bonding process, it is also used for grinding cemented carbide, for bench grinding and centreless grinding applications. Also used for non-ferrous materials, cast iron stainless steel and rough grinding applications.
Green silicon carbide	"GC"	Hard and friable	Used for grinding cemented carbide tools, hard and high chilled cast iron rolls etc.
Combination of black and green SiC	"CGC"	Combined properties of C and GC	Used mainly in the mining field and also in double disc grinding application for grinding piston rings.
Blend of Aluminium oxide & Silicon carbide	"AC"	Combined properties of A and C	Used mainly in specialised precision and non precision application.
Zirconia with Brown Aluminium Oxide	"ZA"	Free cutting very tough and long life abrasive	Ideal for heavy stock removal operation. Used for de-scaling in stainless steel applications.
Micro Crystalline Grains	"SA"	High hardness and micro fracturing	It is suited for a wide variety of applications from general grinding to precision grinding of high hardness tools and steels. E.g. internal grinding wheels. gear grinding wheels, Tool Industry (flute grinding wheels).



Abrasive	Abrasive denotion	Properties	Major Application
Ruby Grains	"ERD"	The presence of chromium oxide in the lattice of the fused aluminium oxide alters the friability of the material	Used mainly in vitrified bonds for precision grinding of hardened steel, high speed steel and tool steel.
Semi friable Aluminium Oxide	"FS"	Its friability and chemical composition is in between that of brown and white aluminium oxide.	Good form holding and a high degree of versatility makes its suitable for precision grinding operations E.g. crankshaft, surface and cylindrical grinding of sensitive steels, metal, and alloys due to its particularly cool and fast cutting qualities.
Sol Gel Grain	"SL"	Multi fracturing	Very cool cutting with self sharpening cutting edges. Very durable, this abrasive is ideal for very high material removal. E.g.: Used in centerless micro-centric, surface internal, cylindrical, tool & cutter, roll grinding gear grinding etc.

GRIT SIZE

Each abrasive is available in many grit size

The grit size represents the number of opening per linear inch in one of the screens used to size the grit. For example, 30 grit size is one which may pass through a screen with 24 openings per inch and be held on the next finer screen size.

Coarse	Medium	Fine	Very Fine
10	30	70	220
12	36	80	240
14	46	90	280
16	54	100	320
20	60	120	400
24		150	500
		180	600



GRADE (STRENGTH OF BONDING)

Indicates hardness

The relative strength of the bond which holds the abrasive grains in place is called grade. In general, with a given type of bond it is the amount of bond which determines the wheel's hardness (Grade). When the amount of bond is increased the size of the bond posts connecting each abrasive grain to its neighbours is increased. The larger bond post is naturally stronger, thereby increasing the wheel's hardness. The harder the wheel the more pressure are required to cause it to work efficiently.

RELATIVELY SOFT WHEEL



Abrasive grains with light bond coating and weak connecting bond posts as in a relatively soft grade wheel.

RELATIVELY HARD WHEEL



Abrasive grains of same size but with heavier bond coating and thicker, stronger bond posts as in harder grade wheel.

In SL.Carborundum wheel marking the letters designating grade range from A to T in that order of "hardness".

Very Soft	Soft	Medium	Hard	Very Hard
A B C D	E F G H	I J K L	M N O P	Q R S T



BOND



VITRIFIED (or ceramic)

bonds are made from clay and feldspar and etc. and wheels of this bond are used extensively in precision grinding. Their porosity and strength give high stock removal and their rigidity helps in attaining accurate grinding. Vitrified bonded wheels are unaffected by water, acids, oils or normal temperature variation.



RESINOID (or organic)

bonds are made from phenolic type plastics or resins, and wheels are used for high-speed revolution in foundries, etc. Wheels of this bond can be operated up to 65m/s. Excellent for rapid stock removal, heavy work. Resinoid bond is used in most cutting-off wheels at higher speeds; also for some thread grinding. Affected by alkalis, humidity or extremes of climatic conditions, resinoid bond tends to deteriorate over a period.

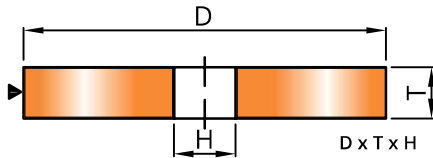
The background is a monochromatic orange-toned image showing various grinding wheels and grinding tools. Some wheels have technical markings like 'SL. Carbide', 'MAX V', 'MAX D.P.M.', '35', 'MAX A 180 HVT', and 'MAX 10 X 1 X 12'. Tools like grinding rods and brushes are also visible.

STANDARD GRINDING WHEEL SHAPES AND FACES

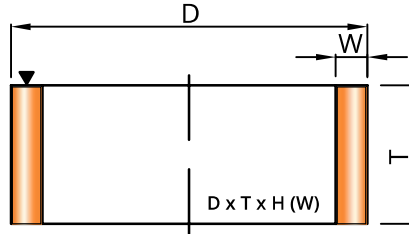


STANDARD GRINDING WHEEL SHAPES

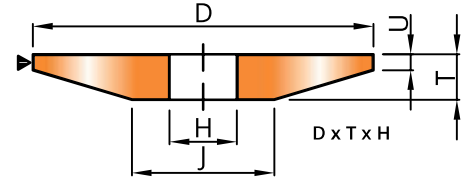
STRAIGHT



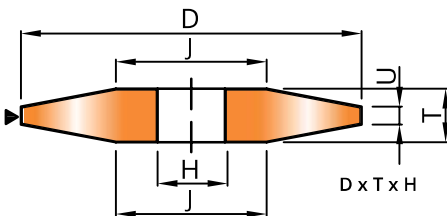
CYLINDER



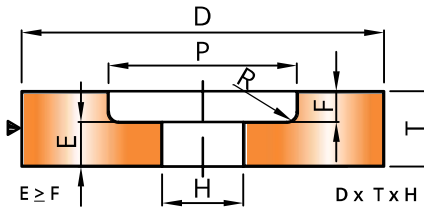
TAPERED ONE SIDE



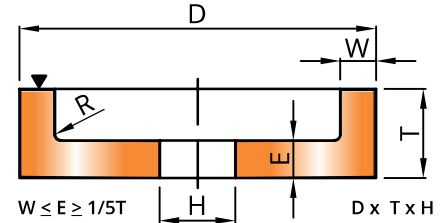
TAPERED TWO SIDE



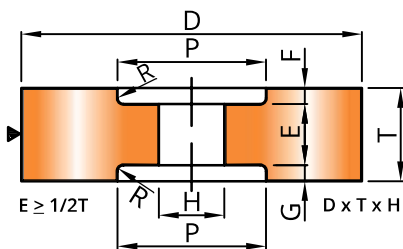
RECESSED ONE SIDE



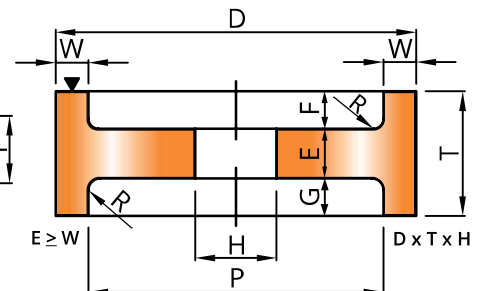
STRAIGHT CUP



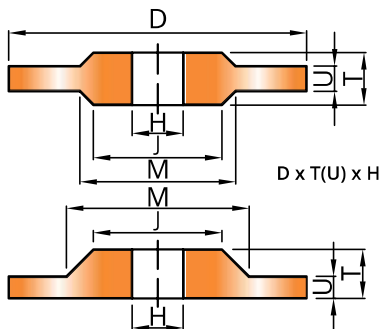
RECESSED TWO SIDE



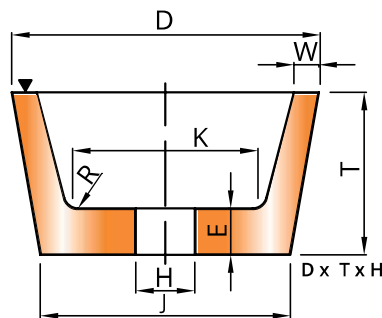
DOUBLE CUP



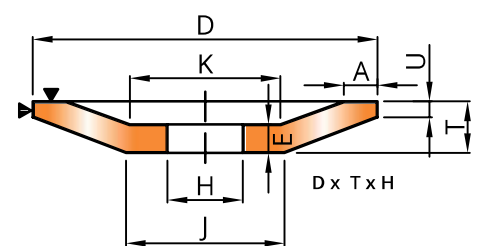
RAISED DOVETAIL



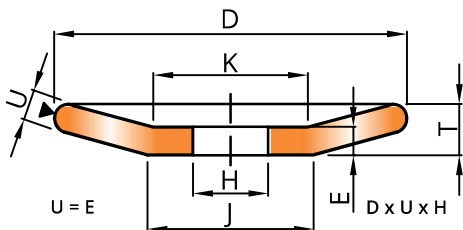
FLARING CUP



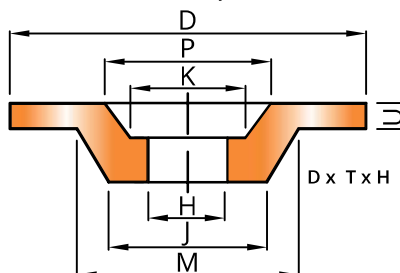
DISH TYPE



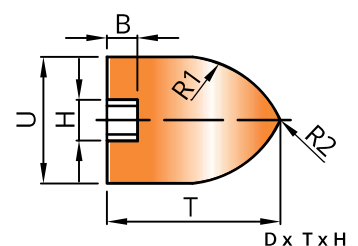
SAUCER



DEPRESSED CENTER (FOR VALUE SEAT)

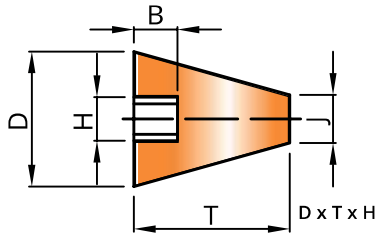


CONE CURVED SIDE

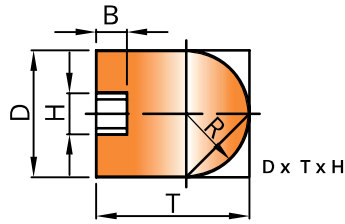




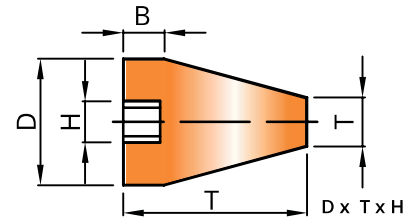
CONE SQUARE TIP



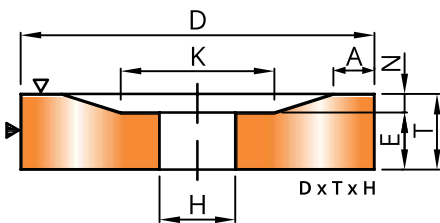
PLUG, ROUND END.



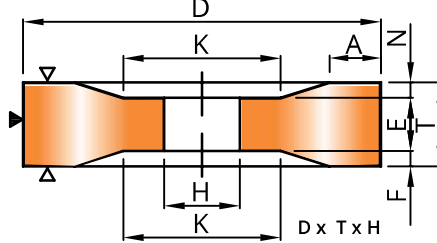
PLUG, CONICAL END.



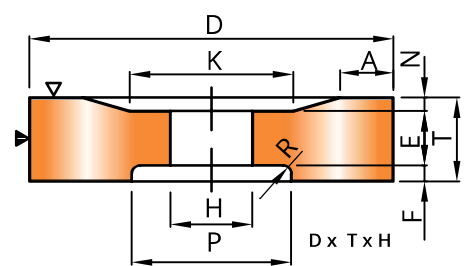
RECESSED ONE SIDE



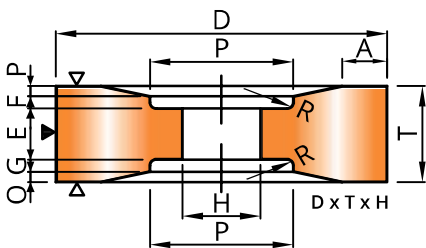
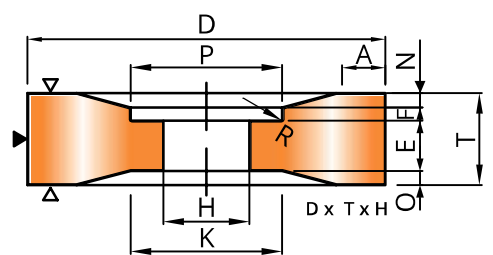
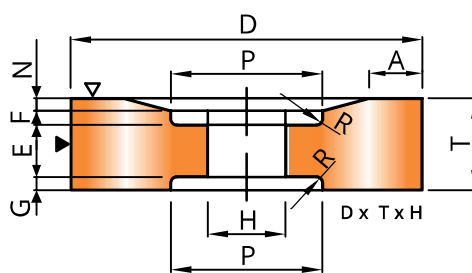
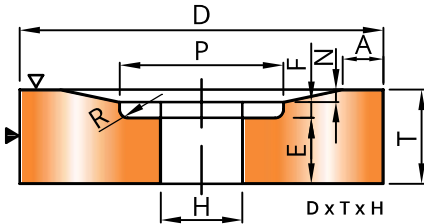
RELIEVED TWO SIDE



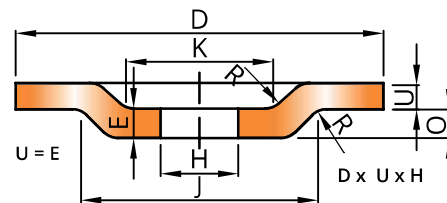
RECESSED ONE SIDE & RECESSED OTHER SIDE



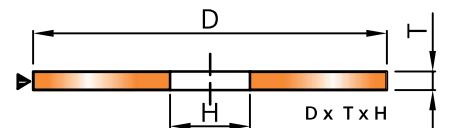
RELIVED & RECESSED SAME SIZE



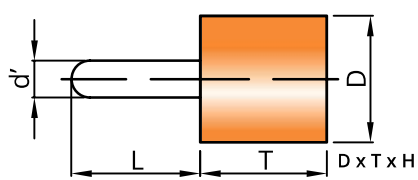
DEPRESSED CENTER (REINFORCED)



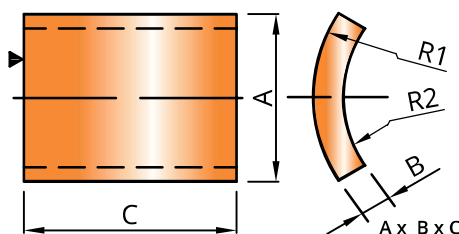
CUT-OFF



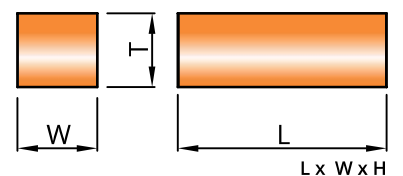
MOUNTED



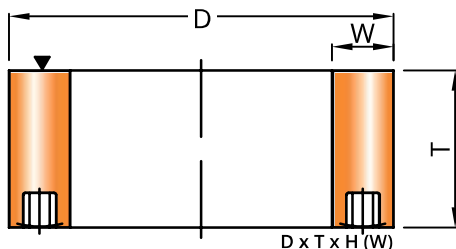
SEGMENT



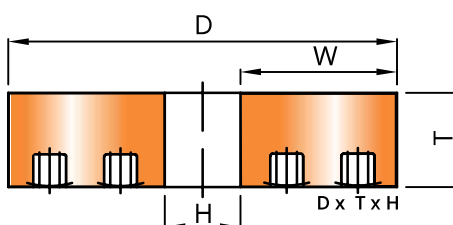
RECTANGLE



CYLINDER WITH NUT INSERTED

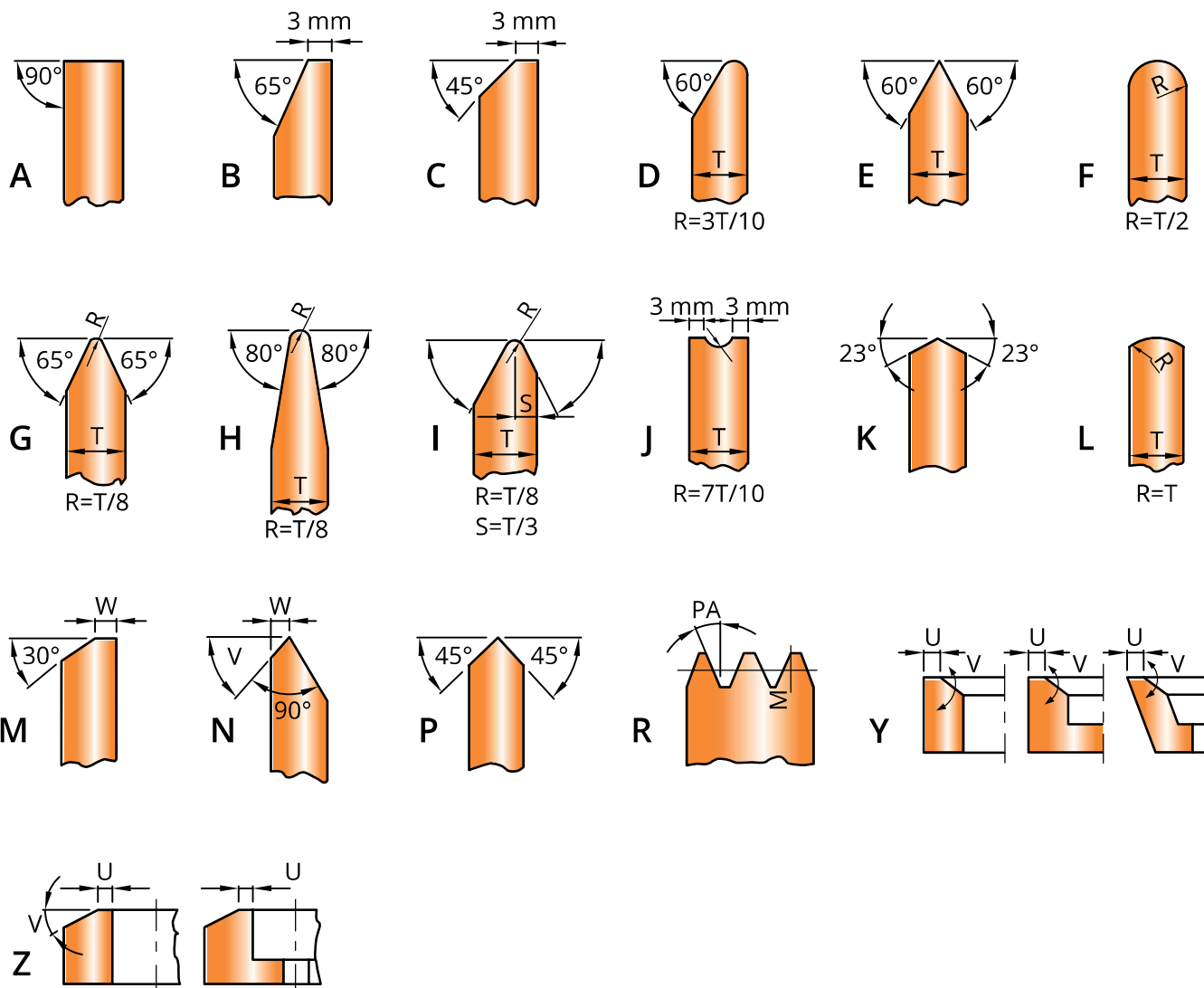


D.S.G.





STANDARD FACES





SAFETY RULES OF GRINDING WHEELS

Recommended Safe Operating Practices

1. Carefully store grinding wheels in a proper condition. i. e. away from eat and humidity sources.
2. Select correct wheel for your operation. "Ring" wheel and inspect for cracks. Never use cracked wheel.
3. Never exceed maximum safe operating speed marked on wheel.
4. Use clean recessed matching flanges at least 1/3 of wheel diameters.
 - A flanger-key is required to ensure concentric operation
 - The inside diameter of the wheel should be larger than the spindle diameter
 - The contact side of the flange should be recessed to prevent from slipping off.
 - The contact area between flange and wheel should insert with blotters or rubber pad with a thickness smaller than 0.025" (0.6mm).
 - Two flanges on both sides should be of the same size.
5. Never alter hole sizes of wheels or force a wheel on to a spindle.
6. Keep work rest adjusted within 3mm of wheel face.
7. Adjust wheel guard and put on safety glasses before grinding.
8. Wheels newly mounted or rarely used must run idly for at least one minute before starting to grind.
9. Grind only on face of straight wheel. Use disc wheel for side grinding. Light side grinding permitted on cup or saucer wheel.
10. Do comply with ANSI B7.1 safety code for safe grinding operation.

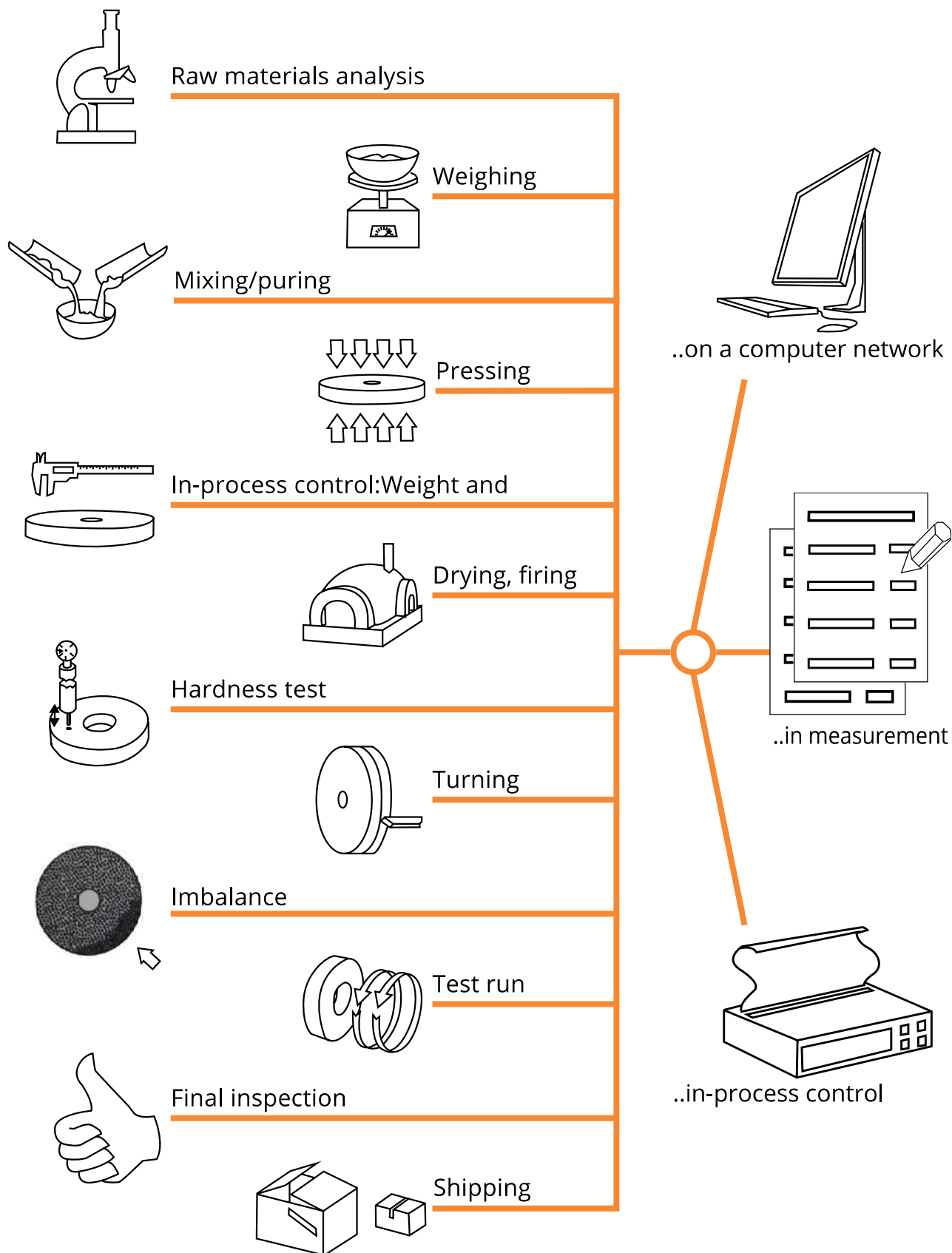
Grinding Wheel Speed

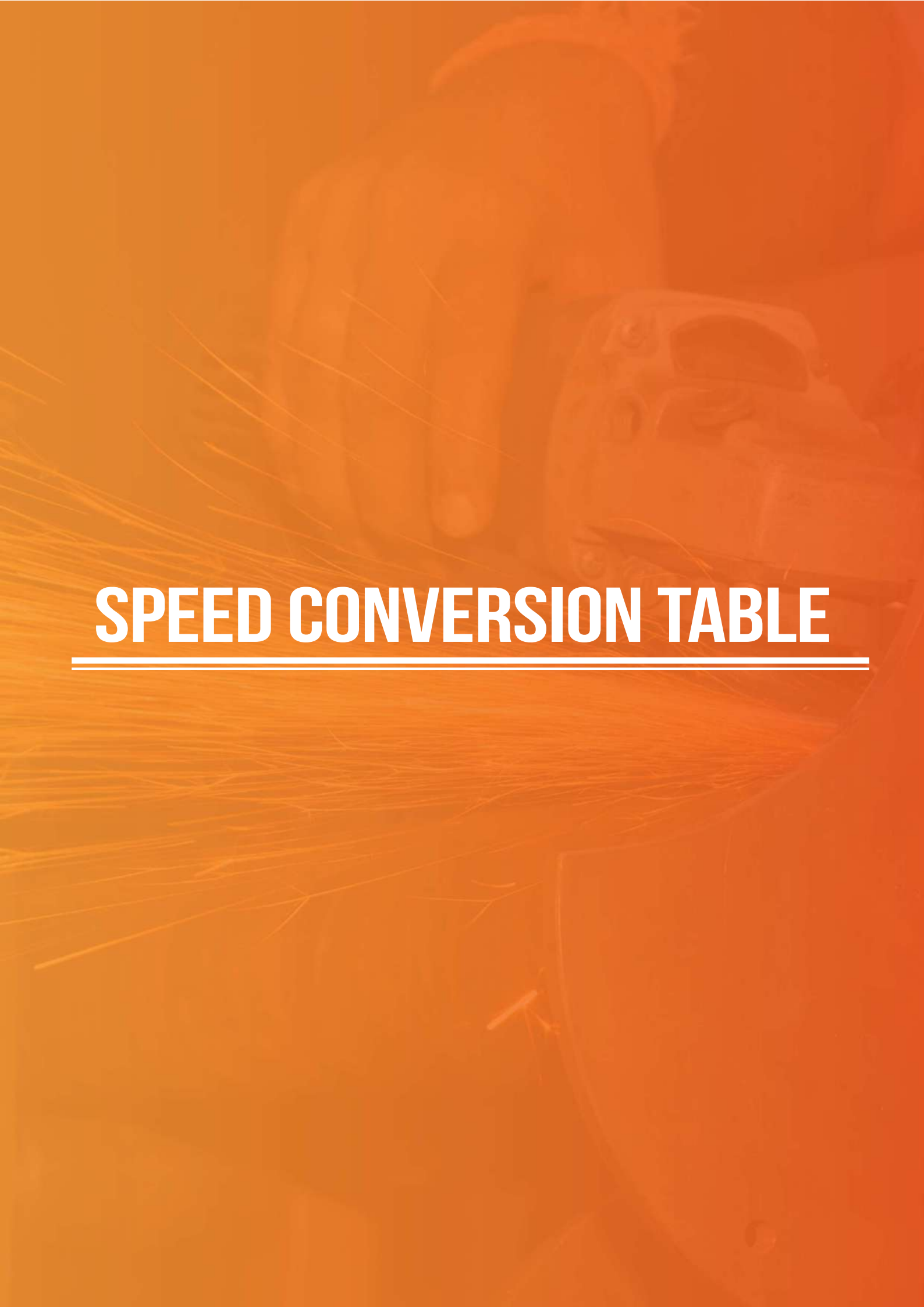
The speed at which a grinding wheel revolves is important because too slow a speed means wastage of abrasive without getting much useful work in return, whereas an excessive speed may result in hard grinding action and may introduce the danger of breakage. As a general proposition, it is better to operate a grinding wheel at somewhere near the speed recommended by SL.Carborundum

we have found by years of experience that certain approved speeds work better than others. The grits, grades and structures usually recommended for specific grinding operations are based on the assumption that approximately the recommended speeds is employed. If for some reason the speeds can not be, as recommended then the grade must be changed to suit the particular condition.



QUALITY CONTROL





SPEED CONVERSION TABLE



SPEED CONVERSION TABLE

CUTTING SPEED (M/S)							
Workpieces		10	16	20	25	32	35
Inch.	mm.						
1/4	6	31,900	51,000	64,000	80,000	102,000	112,000
5/8	8	24,000	38,200	48,000	60,000	76,500	84,000
3/8	10	19,100	30,600	38,200	48,000	61,200	67,000
1/2	13	14,700	23,550	29,500	35,600	47,100	51,500
5/8	16	11,950	19,100	23,900	29,850	38,200	41,800
3/4	20	9,550	15,300	19,100	23,900	30,600	33,500
1	25	7,650	12,300	15,300	19,100	24,500	26,800
1-1/2	40	4,800	7,650	9,550	11,950	15,300	16,750
2	50	3,850	6,150	7,650	9,550	12,250	13,400
2-1/2	63	3,050	4,850	6,100	7,600	9,750	10,65
3	78/80	2,400	3,850	4,800	6,000	7,650	8,400
4	100/102	1,950	3,100	3,850	4,800	6,150	6,700
4-1/2	115	1,700	2,700	3,350	4,200	5,350	5,850
5	125	1,550	2,450	3,100	3,850	4,900	5,350
6	150/155	1,300	2,050	2,550	3,200	4,100	4,500
7	175/180	1,100	1,700	2,150	2,700	3,400	3,750
8	200/205	955	1,550	1,950	2,400	3,100	3,350
9	230	830	1,350	1,700	2,100	2,700	2,950
10	250/254	765	1,250	1,550	1,950	2,450	2,700
12	300/305	640	1,050	1,300	1,600	2,050	2,250
14	350/356	550	875	1,100	1,400	1,750	1,950
16	400/406	480	765	960	1,200	1,550	1,700
18	450/457	425	680	850	1,100	1,400	1,500
20	500/508	385	615	765	960	1,250	1,350
24	600/610	320	510	640	800	1,050	1,150
30	750/762	255	410	510	640	820	895
32	800/813	240	385	480	600	765	840
36	900/914	215	340	425	535	680	750
40	1000/1015	195	310	385	480	615	670



CUTTING SPEED (M/S)							
40	50	63	80	100	125	Workpieces	
						mm.	Inch.
128,000	160,000	201,000	-	-	-	6	1/4
95,500	120,000	150,500	191,000	-	-	8	5/8
76,500	95,500	120,500	153,000	191,000	-	10	3/8
58,800	73,500	92,100	118,000	147,000	184,000	13	1/2
47,800	59,700	75,200	95,500	120,000	150,000	16	5/8
38,200	47,800	60,200	76,500	95,500	120,000	20	3/4
30,000	38,200	48,200	61,200	76,500	95,500	25	1
19,100	23,900	30,100	38,200	47,200	59,700	40	1-1/2
15,300	19,100	24,100	30,600	38,200	47,750	50	2
12,150	15,200	19,100	24,300	30,250	37,900	63	2-1/2
9,500	12,000	15,100	19,100	23,900	29,850	78/80	3
7,650	9,550	12,100	15,000	19,100	23,900	100/102	4
6,650	8,350	10,500	13,300	16,650	20,800	115	4-1/2
6,150	7,650	9,650	12,250	15,300	19,100	125	5
5,100	6,400	8,050	10,200	12,700	16,000	150/155	6
4,250	5,350	6,700	8,500	10,650	13,300	175/180	7
3,850	4,800	6,050	7,650	9,300	11,650	200/205	8
3,350	4,200	5,250	6,650	8,350	10,400	230	9
3,100	3,850	4,850	6,150	7,650	9,400	250/254	10
2,550	3,200	4,050	5,100	6,400	8,000	300/305	12
2,200	2,750	3,450	4,400	5,500	6,850	350/356	14
1,950	2,400	3,050	3,850	4,800	6,000	400/406	16
1,700	2,150	2,700	3,400	4,250	5,350	450/457	18
1,550	1,950	2,450	3,100	3,850	4,800	500/508	20
1,300	1,600	2,050	2,550	3,200	4,000	600/610	24
1,050	1,300	1,650	2,050	2,550	3,200	750/762	30
960	1,200	1,550	1,950	2,400	3,000	800/813	32
850	1,100	1,350	1,700	2,150	2,700	900/914	36
765	960	1,250	1,550	1,950	2,400	1000/1015	40

A background image showing a hand holding a metal component, possibly a valve or fitting, with a welding torch applied to it. The entire image is overlaid with a semi-transparent orange filter. The word "APPLICATIONS" is centered in white, bold, sans-serif font, underlined with two white horizontal lines.

APPLICATIONS



VITRIFIED BOND BENCH & PEDESTAL WHEELS

Reducing Bushes

Reducing bushes shall fit freely on the spindle and keep proper clearance under all conditions and shall not be applied on a larger wheel which is not designed for the grinder.

The width of reducing bushes shall not exceed the thickness of the wheel for not to make contact with the flanges. Reducing bushes shall not be applied on larger holes of grinding wheels on portable or hand-held tools.

Recommendations

Workpieces	Coarse < Medium > Fine			
Mild Steel	A24-P~RV	A36-M~RV	A46-M~QV	A60-M~QV
HSS Tool Steel	36-I	38-I	38-I	80-W
Cast Iron	C20-RV	C24-QV	A46-PV	A60-PV
Malleable Iron	A24-QV	A30-PV	A46-PV	A60-PV
Non-ferrous Metal	C36-K	C46-K	C60-K	C80-L
Tungsten Carbide	GC60-I~K	GC80-I~K	GC100-I~K	GC120-I~K

Telescoping Type

Code No.	Wheel's Thickness	Reduced Hole Sizes
	1/2" (12.7mm)	From 1-1/2" to 1-1/4", 1"
	1" (25.4mm)	From 1-1/4" to 1", 3/4"
	1/2" (12.7mm)	From 1" to 3/4", 5/8", 1/2"
	3/4" (19.05mm)	From 1" to 3/4", 5/8", 1/2"
	1" (25.4mm)	From 1" to 3/4", 5/8", 1/2"

Flat Type

Code No.	Reduced Hole Sizes
	From 1-1/4" to 1"
	From 1-1/4" to 3/4"
	From 1-1/4" to 5/8"
	From 1-1/4" to 1/2"



STANDARD SPECIFICATION

Size D x T x H	A : General Purpose for Mild Steel & Cast Iron etc.	WA : Used for Grinding Tool Steels	GC : Used for grinding Tungsten Carbide	Max. rpm	Min./Std. Packing
	Spec.	Spec.	Spec.		
125 x 13 x 12.7mm (5" x 1/2" x 1/2")	A36-M7V	WA46-M7V		5,093	40
	A46-M7V	WA60-L7V			
	A60-M7V	WA80-L7V			
150 x 6 x 12.7mm (6" x 1/4" x 1/2")	A60-M7V	WA60-L8V2R	GC120-J9V	4,244	10/20
		WA80-L8V2R			
		WA100-L8V2R			
150 x 13 x 12.7mm (6" x 1/2" x 1/2")	A36-M7V	WA46-M7V	GC120-J9V	4,244	20
	A46-M7V	WA60-L7V			
	A60-M7V	WA80-L7V			
150 x 19 x 12.7mm (6" x 3/4" x 1/2")	A36-M7V	WA36-M8V4R	GC60-K9V	4,244	10
	A46-M7V	WA46-M8V4R	GC80-K9V		
	A60-M7V	WA60-L8V2R	GC120-J9V6G		
		WA80-L8V2R			
150 x 25 x 25.4mm (6" x 1" x 1")	A36-M7V	WA36-M8V	GC60-K9V	4,244	10
	A46-M7V	WA46-M8V	GC80-K9V		
	A60-M7V	WA60-L8V	GC120-J9V		
180 x 19 x 15.88mm (7" x 3/4" x 5/8")	A36-M7V	WA46-M8V	GC60-K9V	3,600	10
	A46-M7V	WA60-L8V	GC120-J9V		
	A60-M7V	WA80-L8V			
180 x 25 x 15.88mm (7" x 1" x 5/8")	A36-M7V	WA36-M8V	GC60-K9V	3,600	10
	A46-M7V	WA46-M8V	GC120-J9V		
	A60-M7V	WA60-L8V			
205 x 6 x 15.88mm (8" x 1/4" x 5/8")	A60-M7V	WA60-L8V2R	GC120-J9V6G	3,600	10
		WA80-L8V2R			
		WA100-L8V2R			
205 x 10 x 15.88mm (8" x 3/8" x 5/8")	A46-M7V	WA60-L8V2R	GC120-J9V6G	3,600	10
	A60-M7V	WA80-L8V			
205 x 13 x 15.88mm (8" x 1/2" x 5/8")	A46-M7V	WA60-L8V4R	GC120-J9V6G	3,600	10
	A60-M7V	WA80-L8V			
205 x 19 x 15.88mm (8" x 3/4" x 5/8")	A36-M7V	WA36-M8V4R	GC90-I9V6G	3,600	10
	A46-M7V	WA46-M8V4R	GC120-J9V6G		
	A60-M7V	WA60-L8V2R			
205 x 25 x 15.88mm (8" x 1" x 5/8")	A36-M7V	WA80-L8V2R		3,600	10
	A46-M7V	WA36-M8V4R	GC120-J9V6G		
	A60-M7V	WA46-M8V4R			
205 x 25 x 25.4mm (8" x 1" x 1")	A36-M7V	WA60-L8V		3,600	10
	A46-M7V	WA36-M8V	GC120-J9V6G		
	A60-M7V	WA46-M8V4R			
		WA60-L8V2R			



STANDARD SPECIFICATION

Size D x T x H	A : General Purpose for Mild Steel & Cast Iron etc.	WA : Used for Grinding Tool Steels	GC : Used for grinding Tungsten Carbide	Max. rpm	Min./Std. Packing
	Spec.	Spec.	Spec.		
255 x 13 x 25.4mm (10" x 1/2" x 1")	A36-M7V A46-M7VN	WA80-L8V2R	GC120-J9V	2,497	10
255 x 19 x 25.4mm (10 x 3/4" x 1")	A36-M7V A46-M7V	WA80-L8V4R	GC120-J9V	2,497	5
255 x 25 x 19.05mm (10 x 1" x 3/4")	A36-M7V A46-M7V	WA80-L8V	GC60-K9V GC120-J9V	2,497	5
255 x 25 x 25.4mm (10" x 1" x 1")	A36-M7V A46-M7V A60-M7V	WA36-M8V9R WA46-M8V4R WA60-L8V4R WA80-L8V	GC90-I9V6G GC120-J9V6G GC120-K9V6G	2,497	5
255 x 32 x 31.75mm (10" x 1-1/4" x 1-1/4")	A36-M7V	WA36-M8V WA46-M8V	GC60-K9V	2,497	4
255 x 38 x 31.75mm (10" x 1-1/2" x 1-1/4")	A24-M7V A36-M7V		GC60-K9V	2,497	3
255 x 50 x 31.75mm (10" x 2" x 1-1/4")	A24-M7V A36-M7V			2,497	2
305 x 25 x 25.4mm (12" x 1" x 1")	A24-M7V A36-M7V	WA36-M8V4R WA46-M8V4R WA60-L8V4R	GC90-I9V6G GC90-L9V6G GC120-J9V6G	2,087	5
305 x 32 x 25.4mm (12" x 1-1/4" x 1")	A36-M7V	WA36-M8V9R WA46-M8V	GC60-K9V	2,087	4
305 x 38 x 25.4mm (12" x 1-1/2" x 1")	A24-M7V A36-M7V	WA36-M8V WA46-M8V	GC60-K9V	2,087	3
305 x 50 x 25.4mm (12" x 2" x 1")	A24-M7V A36-M7V	WA36-M8V WA46-M8V	GC60-K9V	2,087	2
305 x 75 x 31.75mm (12" x 3" x 1-1/4")	A24-M7V A36-M7V	WA36-M8V	GC60-K9V	2,087	2
355 x 38 x 25.4mm (14" x 1-1/2" x 1")	A24-M7V A30-M7V A30-M7V A36-M7V	WA36-M8V WA46-M8V			2
355 x 50 x 31.75mm (14" x 2" x 1-1/4")	A36-M7V	WA36-M8V WA46-M8V	GC60-K9V	1,793	2
355 x 65 x 31.75mm (14" x 2-1/2" x 1-1/4")	A24-M7V	WA36-M8V WA46-M8V		1,793	2
355 x 75 x 31.75mm (14" x 3" x 1-1/4")	A24-M7V	WA36-M8V		1,793	2



STANDARD SPECIFICATION

Size D x T x H	C : Used for Grinding All Nonferrous Metal and Rubber Plastic etc.	Max. rpm	Min./Std. Packing
	Spec.		
150 x 19 x 12.7mm (6" x 3/4" x 1/2")	C36-M7V C46-M8V	4,244	10
150 x 25 x 12.7mm (6" x 1" x 1/2")	C36-M7V C46-M8V	4,244	10
205 x 19 x 15.88mm (8" x 3/4" x 5/8")	C36-M7V3G C46-M8V3G	3,600	10
205 x 25 x 25.4mm (8" x 1" x 1")	C36-M7V C46-M8V3G	3,600	10
255 x 25 x 25.4mm (10" x 1" x 1")	C36-M7V3G C46-M8V3G	2,497	5
305 x 25 x 25.4mm (12" x 1" x 1")	C36-M7V C46-M8V3G	2,087	5



FOUNDRY SNAGGING WHEELS

Foundry snagging is to get rid of the unwanted metal after casting such as gates, risers, flashing, stubs, fins and parting lines. Since the tolerance is usually not critical, coarse and durable wheels are used. Foundry snagging wheels are widely used in the automotive, ship building and steel fabrication industries, and in general maintenance or repair shops, as well as in foundries, forging shops, and steel mills. Benchstand, pedestal, floorstand and swing frame grinders are the machines used in foundry snagging.

Recommendations : For floorstand, swing frame and pedestal grinding machines.

Material	Max. Speed / Applications					
	Vitrified (V): 2000 m/min (33m/s)			Resinoid (B): 3000 m/min (50m/s)		
	Standard	Fast Removal	Economic	Standard	Fast Removal	Economic
Non-Ferrous Metal	C36-MV	C24-NV	C24-PV	C20-PB	C16-PB	AC20-PB
Ductile Iron	C24-QV	C20-PV	C24-RV	AC24-QB	ZC20-QB	AC24-QB
Iron Forgings	A30-PV	A24-PV	A30-QV	A24-PB	WA24-PB	A24-QB
Mild Steel	A24-QV	A24-PV	A36-QV	A24-QB	A20-PB	A20-RB
Gray Iron	C20-QV	C20-PV	C24-RV	AC20-PB	ZC16-QB	AC20-QB
Malleable Iron	A30-QV	A30-PV	A36-QV	A24-QB	A16-PB	A24-RB
Steel Castings	A24-QV	A24-PV	A36-QV	A20-PB	AC20-PB	A20-RB
Steel (hard Types)	WA46-MV	WA36-MV	A36-PV	WA30-PB	WA24-PB	A30-PB
Stainless Steel	A24-PV	WA24-NV	A24-QV	WA24-PB	WA24-NB	WA24-QB

Note:

1. AZ and ZC abrasives achieve higher stock removal rates in foundry snagging.
2. Select harder grade and finer grit to grind small workpieces.
3. 3600m/min(60m/s) & 4800m/min(80m/s) high speed wheels are available on request.
4. Please specify the operating speed of wheels in your order.



Standard Sizes & Max. RPM.

D	T	H	Max. rpm.	
			Vitrified	Resinoid
2" (50mm)	3/8" . 1/2"	3/8" . 1/2"	12,732	19,099
2-1/2" (65mm)	3/8" . 1/2"	3/8" . 1/2"	9,794	14,691
3" (75mm)	3/8" . 1/2"	3/8" . 1/2"	8,488	12,732
4" (100mm)	1/2" . 3/4" . 1"	1/2" . 3/4" . 1"	6,366	9,549
5" (125mm)	1/2" . 3/4" . 1"	1/2" . 3/4" . 1"	5,093	7,639
6" (150mm)	1/2" . 3/4" . 1"	1/2" . 3/4" . 1"	4,244	6,366
7" (180mm)	1/2" . 3/4" . 1"	5/8" . 3/4" . 1"	3,600	5,305
8" (205mm)	1/2" . 3/4" . 1"	5/8" . 3/4" . 1"	3,600	4,658
10" (255mm)	1" . 1-1/4" . 1-1/2"	1" . 1-1/4" . 1-1/2"	2,497	3,745
12" (305mm)	1" . 1-1/4" . 1-1/2"	1" . 1-1/4" . 1-1/2"	2,087	3,131
14" (355mm)	1" . 1-1/4" . 1-1/2"	1-1/4" . 1-1/2" . 2"	1,793	2,690
16" (405mm)	1-1/4" . 1-1/2" . 2"	1-1/4" . 1-1/2" . 2"	1,572	2,358
18" (455mm)	1-1/4" . 1-1/2" . 2"	1-1/4" . 1-1/2" . 2"	1,399	2,099
20" (510mm)	2" . 2-1/2" . 3"	2" . 6"	1,248	1,872
24" (610mm)	2" . 2-1/2" . 3"	6" . 8" . 12"	1,044	1,565
30" (760mm)	2" . 2-1/2" . 3"	6" . 8" . 12"	838	1,256

Note:

1. Additional size & specifications are available on request.

2. Please select resinoid wheels for portable & swing frame grinders for safety.

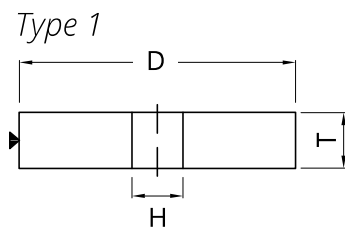
Fault Finding and Correction Guide

Problem	Possible Causes	Suggested Correction
1. Burning of workpiece	Not enough pressure Wheel too hard. Wheel glazed.	Increase pressure or contact area. Use softer grade and/or coarser grit. Dress the wheel.
2. Wheel slows down	Pressure too high. Belt slippage. Wheel too hard.	Reduce pressure or contact area. Adjust and retighten belts. Use softer grade and/or coarser grit.
3 Wheel corners breaking down	Grit too coarse. Worn spindle bearings. Wheel too soft.	Select wheel with finer grit. Check spindle run-out and its bearings. User harder grade of wheels.



PORTABLE SNAGGING WHEELS

Standard Shapes



Recommendations

Application	For Steel	For Cast Iron	For Stone
Rough	A16QB, AZ16QB	AC16QB	C24LB, C36LB
Medium	A24PB, AZ20QB	AC24PB	C46KB, C60KB
Fine	A36PB	AC36PB	C80JB, C120JB

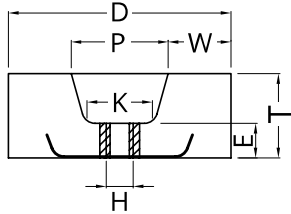
Standard Sizes & Specifications

Shape	Size (D x T x H)		max. rpm.	Standard Specification	
	Inch	mm			
1	3" x 1/4" x 3/8"	75 x 6 x 9.5	12,732	A24-RB	A46-QB
	3" x 3/8" x 3/8"	75 x 10 x 9.53	12,732	A24-RB	A46-QB
	3" x 1/2" x 3/8"	75 x 13 x 9.53	12,732	A24-RB	A46-QB
	4" x 1" x 5/8"	100 x 25 x 15.88	9,549	A24-RB	A46-QB
	6" x 1" x 5/8"	150 x 25 x 15.88	6,366	A16-QB	A46-QB
	8" x 3/4" x 5/8"	205 x 19 x 15.88	4,658	A16-QB	A46-QB
	8" x 1" x 5/8"	205 x 25 x 15.88	4,658	A16-QB	A46-QB

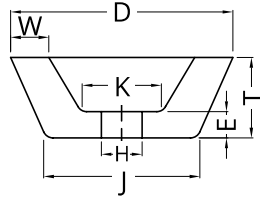


Standard Shapes

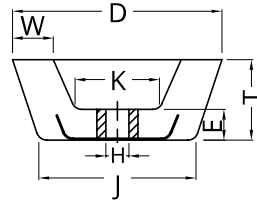
Type 6-1 Straight



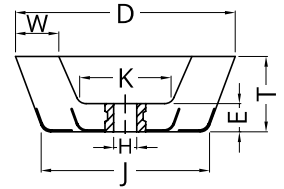
Type 11 Flaring Cup



Type 11-2 Flaring Cup
With Nut Inserted Dish



Type 11-3 Flaring Cup
With Nut Inserted Dish



Standard Sizes & Specification

Shape	Size (mm & inch)					max. rpm.	Standard Specification		
	D x T x H	W	E	J	K		Rough < Medium > Fine		
6-1	4" x 1-3/4" x 5/8"-11 (100 x 45 x M14)	1-3/16" 30	1/2" 13			8,500	A16-QB AC16-QB AZ16-QB	A24-PB AC24-PB AZ20-QB	A36-PB AC36-PB
6-1	5" x 2" x 5/8"-11 (125 x 50 x M14)	1-1/4" 32	1/2" 13			6,800	A16-QB AC16-QB AZ16-QB	A24-PB AC24-PB AZ20-QB	A36-PB AC36-PB
6-1	6" x 2" x 5/8"-11 (150 x 50 x M14)	1-1/2" 38	3/4" 19			5,700	A14-QB AC14-QB AZ14-QB	A20-QB AC20-QB AZ20-QB	A30-PB AC30-PB
11	4" x 2" x 7/8" (100 x 50 x 22.23)	3/4" 19	3/8" 10	3-1/8" 80	1-1/2" 40	8,500	A16-QB C24-LB	A24-PB C46-KB	A36-PB C80-JB
11	4-1/2" x 2" x 7/8" (110 x 50 x 22.23)	3/4" 20	1/2" 13	3-1/2" 90	1-3/4" 45	8,500	A16-QB C24-LB	A24-PB C46-KB	A36-PB C80-JB
11	5" x 2" x 7/8" (125 x 50 x 22.23)	3/4" 20	1/2" 13	3-1/2" 90	2" 50	6,800	A16-QB C24-LB	A24-PB C46-KB	A36-PB C80-JB
11-2	4-1/2" x 2" x 5/8"-11 (110 x 50 x M14)	3/4" 20	1/2" 13	3-1/2" 90	1-3/4" 45	8,500	A16-QB AC16-QB C24-LB	A24-PB AC24-PB C46-KB	A36-PB AC36-PB C80-JB
11-2	5" x 2" x 5/8"-11 (125 x 50 x M14)	1" 25	3/4" 20	3-3/4" 95	2" 50	6,800	A16-QB AC16-QB C24-LB	A24-PB AC24-PB C46-KB	A36-PB AC36-PB C80-SB
11-2	6" x 2" x 5/8"-11 (150 x 50 x M14)	7/8" 22	3/4" 22	4-3/4" 120	2-7/8" 73	5,700	A14-QB AC14-QB AZ14-QB	A20-QB AC20-QB AZ20-QB	A30-PB AC30-PB
11-3	7" x 2-1/2" x 5/8"-11 (180 x 65 x M14)	1-1/2" 40	3/4" 20	5-3/8" 137	2-3/4" 70	5,310	A14-RB AC14-PB AZ14-RB	A20-QB AC20-QB AZ16-RB	A30-PB AC30-PB

Note:

1. These wheels should be used with a proper machine guard.
2. Additional sizes & specifications are available on request.



SURFACE GRINDING WHEELS (STRAIGHT TYPE)

Peripheral Surface Grinding

Surface grinding with straight or recessed wheels on machines with a rotating or reciprocating table results in larger contact area than in cylindrical grinding. Therefore, it is necessary to use softer grade wheels, particularly when large diameter and/or wide wheels are used.

When Grinding a large number of components, the grinding is not continuous. In this case, the components tend to dress the wheel, so a harder grade wheel should be used.

Recommendations

Wheel Diameter		180~205mm		255~355mm		405~510mm	610mm~
Contact area		Broad Contact	Narrow Contact Interrupted	Broad Contact	Interrupted Cut	Standard	Standard
Material							
Soft Steel (Unhardened Steel)		WA46-K8V WA60-K8V	WA46-K8V WA60-K8V	WA46-J8V WA46-K8V	WA46-K8V WA60-K8V	WA36-K8V WA46-K8V	WA36-K8V WA46-J8V
Alloy Steel (Hardened)		70SA46-H10V 3SL46-JV	70SA60-H9V 3SL60-GV	70SA46-H10V 3SL46-GV	70SA46-H8V 3SL46-GV	70SA46-H10V 5KG46-GV	70SA46-H12V 5KG-46GV
High-Speed Steel (Hardened)		SA46-H12VP 70SA46-H10V 3SL46-IV	70SA60-H10V 3SL60-IV	70SA46H-10V 3SL46-GV	70SA46-H8V 3SL46-GV	70SA46-H12VP 3SL46-G12VP	70SA36-H12VP 3SL46-G12VP
Stainless Steel	400 Series	WA46-G10V	WA46-J8V	WA46-G12V	WA46-G10V	WA60-G10V	WA36-G12VP
	300 Series	GC46-G12V	GC46-I10V	GC36-I10V	GC46-H12VP	GC36-H12VP	GC30-H12VP
Chromium-Plated Material		70SA60-H10V 3SL60-G12V		70SA60-G12V		70SA60-H10V	
Cast Iron	Ordinary	C46-J6V	C46-J8V	C46-J6V		C36-I6V	C36H-12VP
	Special	GC46-J9V	C46-J6V	GC46-J9V		GC36-I10V	GC36-H12VP
Non-Ferrous Metals		C36-H6V	C46-H6V C46-H6V	C36-H6V		C36-H6V	C36-H6V
Tungsten Carbide		GC100-H9V	-	-	-	-	-

**Note:**

1. 3KG & 5KG are micro- crystalline abrasive, used primarily for precision grinding of difficult-to-grind steels and well defined cutting edges, a cool cut and excellent shape retentions.
2. Finer grits for improved surface finishes are available on request.

For all type of tool steel

Shape	Size D x T x H	WA & MA	SA · 93A & PSA	KG - Ceramic Grain	Max. rpm	Min./Std. Packing
		Spec.	Spec.	Spec.		
1	150 x 3 x 31.75m 6" x 1/8" x 1-1/4"	WA120-K8V	SA120-K8V		4,244	20/10
		WA180-K8V	SA180-K8V9Y			
		WA220-L8	SA220-L8V			
1	150 x 6 x 31.75mm 6" x 1/4" x 1-1/4"	WA120-K8V7N	SA120-K8V9G		4,244	20/10
		WA180-K8V	SA180-K8V			
		WA220-L8V	SA220-K8V3B			
1	150 x 13 x 31.75mm	WA46-K8V7N	SA46-K8V7N	5KG46-KV	4,244	10
		WA60-K8V7N	SA60-K8V7N	5KG60-KV		
		WA80-K8V7N	SA80-J8V9G			
		WA120-K8V7N				
1	180 x 3 x 31.75mm 7" x 1/8" x 1-1/4"	WA80-K8V7N	SA120-K7V9N		3,600	20
		WA100-K8V7N	SA180-K8V9G			
		MA100-K8V9Y	SA220-L8V3B			
		MA120-K7V9Y				
		MA180-K8V9Y				
1	180 x 4.5 x 31.75mm 7" x 3/16" x 1-1/4"	MA100-K8V9Y			3,600	10
		MA120-K8V9Y				
		MA220-K8V9Y				
		MA320-K9V9Y				
		MA500-K9V9Y				
1	180 x 6 x 31.75mm 7" x 1/4" x 1-1/4"	WA46-K8V9N	SA120-K7V7N	5KG46-KV	3,600	10
		WA60-K8V9N	SA180-K8V3W	5KG60-JV		
		WA80-K8V9N	SA220-L8V3W	5KG60-KV		
		MA100-K8V9Y		5KG80-JV		
		MA120-K8V9Y	VM52009-			
		MA180-K8V9Y	VM52008-	5KG100-JV		
		MA220K8V9Y	VM52024-			
		MA320K8V9Y	VM52025-			
		MA500K9V9Y				



For all type of tool steel

Shape	Size D x T x H	WA & MA	SA · 93A & PSA	KG - Ceramic Grain	Max. rpm	Min./Std. Packing
		Spec.	Spec.	Spec.		
1	180 x 8 x 31.75mm 7" x 5/16" 1-1/4"	WA60-K8V9N WA80-K8V9N WA100-K8V9N WA120-K8V7N			3,600	10
1	180 x 10 x 31.75mm 7" x 3/8" x 1-1/4"	WA46-K8V9N WA60-K8V9N WA80-K8V9N WA100-K8V9N WA120-K8V9N	SA46-H8V SA46-H8V SA60-H8V SA60-I8V SA60-K8V SA80-K8V9G		3,600	10
1	180 x 13 x 31.75mm 7" x 1/2" x 1-1/4"	WA46-H10V7N WA46-I8V9N WA46-J8V WA46-K8V9N WA60-H10V WA60-I8V9N WA60-J8V WA60-K8V9N WA80-K8V9N WA100-K8V9N WA120-K8V9N MA46K8V9Y MA60K8V9Y MA80K8V9Y	SA46-HV10 9 GC3 SA46-IV8 7L SA46-JV8 7N SA46-KV8 9G SA60-HV8 7N SA60-IV8 9G SA60-JV8 7N SA60-KV8 7G 93A46-H11V9N 93A60-H11V9N	5KG46-H11V9B 5KG46-K9V9B 5KG60-J9V9B 5KG80-JV8 9B 5KG80-KV8 9B 5KG100-KV8 7C 3KG46-HV8 7E 3KG60-HV10 9B		



SURFACE GRINDING WHEELS TYPE 2-CYLINDRICAL

Standard Specifications & Sizes- Type 2 Cylindrical Wheels

Standard Sizes		Vitrified	Resinoid
D x T x H	W	Specification	Specification
150 x 75 x 112mm 6" x 3" x 4-1/2"	19mm 3/4"	WA46-HV	WA36-JB
150 x 100 x 100mm 6" x 4" x 4"	25mm 1"	WA46-HV	WA36-JB
180 x 75 x 142mm 7" x 3" x 5-3/4"	19mm 3/4"	WA46-HV	WA36-JB
180 x 100 x 130mm 7" x 4" x 5"	25mm 1"	WA46-HV	WA36-JB
205 x 100 x 155mm 8" x 4" x 6"	25mm 1"	WA46-HV	WA36-JB
205 x 125 x 155mm 8" x 5" x 6"	25mm 1"	WA46-HV	WA36-JB
255 x 100 x 205mm 10" x 4" x 8"	25mm 1"	WA46-HV	WA46-HB
255 x 125 x 205mm 10" x 5" x 8"	25mm 1"	WA46-HV	WA46-HB
280 x 125 x 230mm 11" x 5" x 9"	25mm 1"	WA30-HV	
305 x 100 x 255mm 12" x 4" x 10"	25mm 1"	WA46-HV	WA46-HB
305 x 125 x 241mm 12" x 5" x 9-1/2"	32mm 1-1/4"	WA46-GV	WA46-HB
305 x 125 x 229mm 12" x 5" x 9"	38mm 1-1/2"	WA46-FV	WA46-HB
305 x 125 x 215mm 12" x 5" x 8-1/2"	45mm 1-3/4"	WA46-FV	WA46-HB
320 x 125 x 275mm 12.6" x 5" x 10.83"	45mm 1-3/4"	WA46-GV	WA46-HB



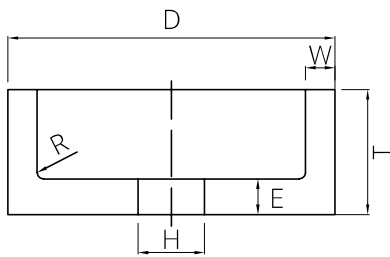
Standard Specifications & Sizes- Type 2 Cylindrical Wheels

Standard Sizes		Vitrified	Resinoid
D x T x H	W	Specification	Specification
355 x 100 x 305mm 14" x 4" x 12"	25mm 1"	WA46-HV	WA46-HB
355 x 100 x 291mm 14" x 4" x 11-1/2"	32mm 1-1/4"	WA46-HV	WA46-HB
355 x 125 x 305mm 14" x 5" x 12"	25mm 1"	WA46-HV	WA46-HB
355 x 125 x 191mm 14" x 5" x 11-1/2"	32mm 1-1/4"	WA46-GV	WA46-HB
355 x 125 x 279mm 14" x 5" x 11"	38mm 1-1/2"	WA46-FV	WA46-HB
405 x 125 x 341mm 16" x 5" x 13-1/2"	32mm 1-1/4"	WA36-FV	
405 x 125 x 329mm 16" x 5" x 13"	38mm 1-1/2"	WA36-FV	
455 x 125 x 379mm 18" x 5" x 15"	38mm 1-1/2"	WA30-G12VPI	
455 x 125 x 355mm 18" x 5" x 14"	50mm 2"	WA30G-12VPI	
510 x 125 x 434mm 20" x 5" x 17"	38mm 1-3/4"	WA30G-12VPI	
510 x 125 x 420mm 20" x 5" x 16-1/2"	45mm 1-1/2"	WA30G-12VPI	
510 x 125 x 410mm 20" x 5" x 16"	50mm 2"	WA30G-12VPI	



SURFACE GRINDING WHEELS TYPE 6-CUP WHEELS

How to specify the Size & Spec



6 A 205 x 125 x 25.4 (25W & 25 E) - WA36J8V4R

Shape Face D x T x H W x E Specification

Sizes			Spec	Max. rpm
D x T x H	W	E		
150 x 75 x 25.4mm 6" x 3" x 1"	19mm 3/4"	19mm 3/4"	38A36-K8V4R 38A46-K8V4R	3,183 3,820
150 x 100 x 25.4mm 6" x 4" x 1"	25mm 1"	25mm 1"	38WA36-K8V4R	3,183
180 x 80 x 82.55mm 7" x 3-1/8" x 3-1/4"	22mm 7/8"	25mm 1"	C24-KB	4,000
180 x 125 x 25.4mm 7" x 5" x 1"	25mm 1"	25mm 1"		2,653
205 x 100 x 25.4mm 8" x 4" x 1"	25mm 1"	25mm 1"		2,329
205 x 125 x 25.4mm 8" x 5" x 1"	25mm 1"	25mm 1"	WA36-J8V4R WA36-K8V4R WA46-J8V4R	2,329 2,329 2,795
255 x 100 x 25.4mm 10" x 4" x 1"	25mm 1"	25mm 1"	WA46-J8V	2,247
255 x 100 x 38.1mm 10" x 4" x 1-1/2"	32mm 1-1/4"	25mm 1"	WA46-I8V	2,247



How to specify the Size & Spec

Sizes			Spec	Max. rpm
D x T x H	W	E		
255 x 125 x 25.4mm 10" x 5" x 1"	25mm 1"	25mm 1"	WA46-J8V	2,247
305 x 100 x 214.32mm 12" x 4" x 8-7/16"	25mm 1"	25mm 1"	WA30-GB C30-JB	2,400 2,400
305 x 125 x 31.75mm 12" x 5" x 1-1/4"	38mm 1-1/2"	38mm 1-1/2"	WA36-JV	1,565
305 x 150 x 38.1mm 12" x 6" x 1-1/2"	38mm 1-1/2"	38mm 1-1/2"	WA36-JV	1,565
355 x 100 x 214.32mm 14" x 4" x 8-7/16"	25mm 1"	25mm 1"	WA30-GB	2,100
355 x 125 x 101.6mm 14" x 5" x 4"	32mm 1-1/4"	32mm 1-1/4"	WA36-JV	1,345
355 x 150 x 127mm 14" x 6" x 5"	38mm 1-1/2"	38mm 1-1/2"	WA36-JV	1,345
405 x 100 x 101.6mm 16" x 4" x 4"	38mm 1-1/2"	38mm 1-1/2"	WA36-JV	1,179
405 x 125 x 127mm 16" x 5" x 5"	50mm 2"	50mm 2"	WA36-JV	1,179
508 x 150 x 393.7mm 20" x 6" x 15-1/2"	36mm 1-3/8"	16mm 5/8"	C30-HV	*1,248



CYLINDRICAL GRINDING WHEELS

Cylindrical grinding may include all outside diameter grinding, even though the finished workpiece is not a cylinder.

The Workpiece may be conical in shape or consist of a special form, ground with a wheel dressed into a specific shape. Wheels in this category are used for grinding works which are held between centres and chucks.

Requirements in cylindrical grinding vary from fast stock removal, where rough finish is allowed, to ultra-smooth finishing, which is called mirror finish. Wheels with coarse grit and rough dressing are suitable for fast stock removal. In contrast, wheel with fine grit and smooth dressing result in smooth finish.

Hard material requires softer wheels than soft material in the same wheel dimension. Workpieces with small diameters or sharp corners, finer grit is more important than harder grade. Workpieces with wide shoulders require softer and coarser wheels, particularly when the workpiece is hardened.

Starting Recommendation of Specification

Workpiece Materials		Wheel Diameter (Vitrified)			
		355mm	355-405mm	455-510mm	610mm
		14	14 ~ 16	18 ~ 20	24 ~ 30
Carbon Steel	< HRC25	A60-MV	A54-MV	30SA46-MV	30SA46-LV
	≠ HRC25	WA60-MV	30SA54-LV	30SA46-LV	30SA46-KV
Alloy Steel	< HRC55	WA60-LV	A54-LV	30SA46-LV	30SA46-LV
	≠ HRC55	SA60-KV	SA54-K	SA46-KV	SA46-JV
Tool Steel	< HRC60	WA60-KV	PA54-KV	PA46-KV	PA46-JV
	≠ HRC60	SA60-JV	SA54-JV	SA46-JV	SA46-IV
Stainless Steel heat resistance Steel		SA60-KV	SA54-KV	SA46-KV	SA46-JV



Starting Recommendation of Specification

Workpiece Materials	Wheel Diameter (Vitrified)			
	355mm	355-405mm	455-510mm	610mm
	14	14 ~ 16	18 ~ 20	24 ~ 30
Cast Iron	C60-JV	C54-KV	C46-KV	C36-KV
Special Cast Iron	GC60-IV	GC54-JV	GC46-JV	GC36-JV
Chilled Iron	GC60-IV	GC54-JV	GC46-JV	GC36-JV
Malleable Iron	A60-MV	A54-MV	A46-MV	A46-LV
Brass	C46-JV ~ C36-JV			
Bronze	A54-LV ~ A36-LV			
Al. Alloy	C46-JV ~ C36-JV			
Super Al. Alloy	GC80-IV ~ GC60-IV			
Chromium Plating	EDR			
Rubber	C/GC-36 ~ 60-H ~ LV			

Standard Size & Specification: Type 1-Straight Wheels

Size (D x T x H)		Spec.	Max.rpm
mm	inch		
305 x 32 x 76.2	12" x 1-1/4" x 3"	WA46-K8V	2,087
305 x 32 x 101.6	12" x 1-1/4" x 4"	WA46-K8V	2,087
355 x 38 x 127	14" x 1-1/2" x 5"	WA60-K8V	1,793
405 x 25 x 127	16" x 1" x 5"	A60-K8V SA60-F5V 5KG60-JV	1,572
405 x 25 x 203.2	16" x 1" x 8"	A60-K8V SA60-K5V	1,572
405 x 38 x 127	16" x 1-1/2" x 5"	A60-K8V SA60-K8V	1,572
405 x 50 x 127	16" x 2" x 5"	A60-F8V WA46-K8V	1,572
455 x 50 x 127	18" x 2" x 5"	30SA60-K8V 5KG60-KV	1,399
510 x 25 x 203.2	20" x 1" x 8"	PA60-K8V PA80-K8V	1,248
510 x 38 x 127	20" x 1-1/2" x 5"	SA46-H8V	1,248
510 x 50 x 127	20" x 2" x 5"	30SA60-K8V	1,248
510 x 50 x 203.2	20" x 2" x 8"	30SA60-K8V PA60-K8V SA60-K5V 5KG46-KV	1,248

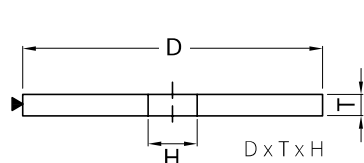


Starting Recommendation of Specification

Size (D x T x H)		Spec.	Max.rpm
mm	inch		
510 x 50 x 304.8	20" x 12" x 12"	FSA46-J8V SA46-J8V	1,248
510 x 75 x 203.2	20" x 3" x 8"	FSA60-K8V PA60-J8V	1,248
610 x 25 x 304.8	24" x 1" x 12"	PA80-L8V	1,044
610 x 50 x 304.8	24" x 2" x 12"	FSA60-K8V FSA80-K8V	1,044
760 x 50 x 304.8	30" x 2" x 12"	FSA60-K8V SA60-K8V	838
760 x 75 x 304.8	30" x 3" x 12"	FSA60-K8V SA60-K8V	838
760 x 100 x 304.8	30" x 4" x 12"	FSA60-K8V	838

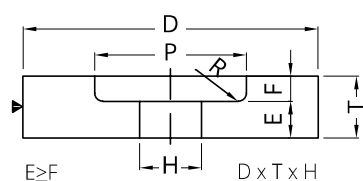
Shape 1

Straight



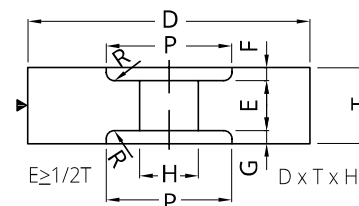
Shape 5

Recessed one side



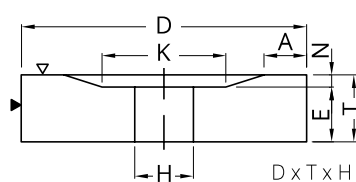
Shape 7

Recessed two side



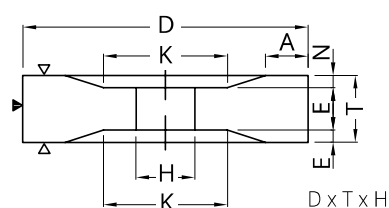
Shape 20

Recessed one side



Shape 21

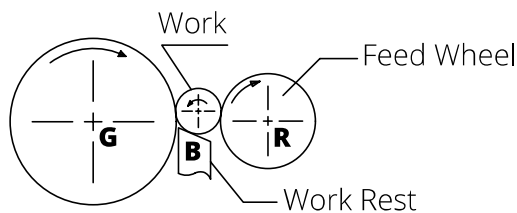
Relieved two side





CENTERLESS GRINDING WHEELS

Centerless Grinding

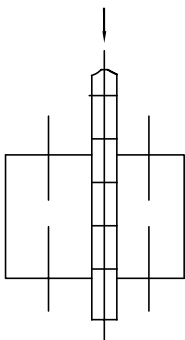


In centerless grinding, the work is supported on a work rest work “blade” between the regulating or “feed” wheel and the grinding wheel, The feed wheel controls and drives the work; the grinding wheel, running at normal speed, does the grinding.

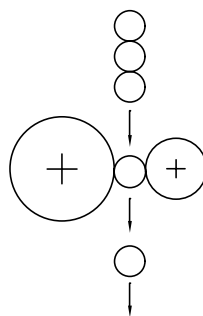
The work is not necessarily perfectly cylindrical but may be tapered or otherwise formed. Frequently, several

diameters are ground at once by step dressing the wheel or by spacing two or more wheels on the same wheel spindle (infeed grinding). Most jobs, however, are “through feed” of straight pieces where the work enters on one side of the machine and exits on the other.

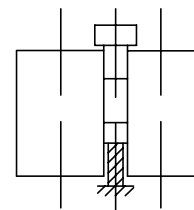
There are three types of centerless grinding Method:



1. Throught-feed grinding



2. In-feed grinding



3. End-feed grinding



Recommendations (Grinding Wheels):

The table below is for throughfeed grinding. For plunge grinding, select an abrasive one size finer to maintain surface finish

Application			Specification	Application			Specification
Steel	Soft	HRC<25	A60MV	Valve	Tappet		WA60MV
	Hard	HRC>25	64A60LV				
Alloy Steel	Soft	HRC<55	64A60LV	Piston Pin			Roughing
	Hard	HRC>55	WA60KV		Finishing		WA80LV
Tool Steel High Speed		HRC<60	SA60KV	Drill	Soft		A60MV
		HRC>60	SA60KV		Hard		WA80KV
Stainless Steel	400 Series		WA60KV				
	300 Series		GC54LV	Alnico			A60LV
Cast Iron	Grey Cast Iron		C60LV				SA60PB
	Special Cast Iron		GC60LV	Bars:			
	Malleable Cast Iron		A60MV	ø19 & smaller			A54RB
Non-ferrous Metal	Brass		C60KV	ø20 ~ ø65			A54QB
	Bronze		A60MV	over ø65			A60PB
	Aluminum Alloy		C60KV	Tubing:			
Magnetic Steel Casting			WA60KV	steel			A60MV
Bolt			A60MV	chrome nickel			A60MV
Bushing			A60KV	aluminum			AC46KV
Bearing	Roller roughing		64A46LV				WA46LV
	finishing		A100LV	Tungsten:			
Ring			WA80LV	rolled			SA46NV
Valve	Automotive		WA60MV	sintered			C60KV



CRANKSHAFT GRINDING WHEELS

Centerless Grinding

Application	Specification
Air Craft	A54-KV
Diesel	A54-NV
Automotive (Pin and Bearings)	10A46-PV
Roughing-heavy side removal	A54-OV A60-OV
light side removal	A54-PV
Finishing	A54-NV
Roughing and Finishing	
Automotive (Regrinding)	

Crankshaft grinding is found throughout the automotive, truck, diesel, aircraft, small engine manufacturing industry and also in many engine rebuilding firms for regrinding of the pins and bearings. Wheel speeds of up to 2700m/min are most common, however some production machines will run at higher speeds.

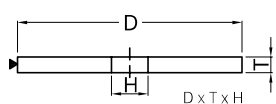
thicker wheels may be relieved or recessed to wheel Types 5,7 or 21.

For Multi- Wheel machines used to grind all the main bearings at one time, specify diameter and thickness tolerances for the set of wheels.

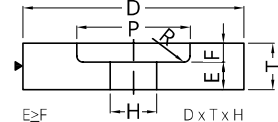
This will assure wheels being trued, marked and packed in sets as required for use.

SL.Carborundum 3 layer crankshaft grinding wheels can hold tight corner radii and achieve good surface finish of pins, bearing seats, and their side walls of a crankshaft, while plunge grinding

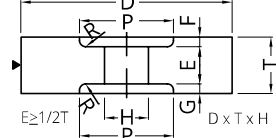
Shape 1 Straight



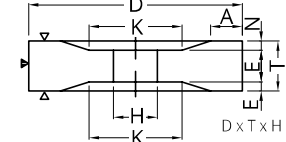
Shape 5 Recessed one side



Shape 7 Recessed two side



Shape 21 Relieved two side





Standard Size

(inch)			(mm)		
D	T	H	D	T	H
14"	1/2" . 3/4" . 7/8"	3"	355	13, 19, 22	76.2
16"	3/4" . 7/8" . 1"	3", 5"	405	19, 22, 25	76.2, 127.0
18"	1" . 1-1/8" . 1-1/4" . 1-3/4"	3", 5"	455	25, 28, 32, 45	76.2, 127.0
20"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4" . 1-1/2"	3-3/4", 6"	510	19, 22, 25, 28, 32, 38	95.25, 152.4
22"	7/8" . 1" . 1-1/4" . 1-3/4"	6"	560	22, 25, 32, 45	152.4
23"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4"	6"	585	19, 22, 25, 28, 32	152.4
24"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4"	8"	610	19, 22, 25, 28, 32, 38, 45	203.2
26"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4"	8"	660	19, 22, 25, 28, 32, 38, 45	203.2
28"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4"	6", 8"	710	19, 22, 25, 28, 32, 38, 45	152.4, 203.2
30"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4"	8", 12", 17-3/4"	760	19, 22, 25, 28, 32, 38, 45	203.2, 304.8, 450.8
32"	3/4" . 7/8" . 1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4" . 2"	8", 12"	810	19, 22, 25, 28, 32, 38, 45, 50	203.2, 225.0, 304.8
36"	1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4" . 2" . 2-1/2"	12"	915	25, 28, 32, 38, 45, 50, 65	304.8
40"	1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4" . 2" . 2-1/2"	12"	1015	25, 28, 32, 38, 45, 50, 65	304.8
42"	1" . 1-1/8" . 1-1/4" . 1-1/2" . 1-3/4" . 2" . 2-1/2"	12"	1065	25, 28, 32, 38, 45, 50, 65	304.8
50"	1-1/4" . 1-1/2" . 1-3/4" . 2" . 2-1/2"	12"	1250	32, 38, 45, 50, 65	304.8
60"	1-1/2" . 1-3/4" . 2" . 2-1/2"	12" , 20"	1500	38, 45, 50, 65	304.8, 508.0

Note: Any thickness may be specified within standard availability limits, however, thickness should be specified in decimals.



CAM GRINDING WHEELS

Cam grinding demands free cutting wheels with good form holding abilities together with the ability to maintain tight surface finish tolerances. Both vitrified and resinoid bonded wheels are used, depending on the material used and surface finish required.

Production cam grinding is found in the automotive, aircraft, truck, shipbuilding, locomotive and farm equipment engine industry. Two types of installations are found: 1) Dual cycle machines which rough and finish with one wheel specification: special high speed vitrified wheels are normally used: 2) Two separate machine-one for roughing and one for finishing standard vitrified wheels are used for roughing and resinoid wheels are used for finishing.

Cam regrinding is found in engine rebuilding shop throughout the country. The amount of material which must be removed is less than in original manufacture, but the same critical shape tolerances apply.

Typical Machines Used

D	T	H	Max. Speed	Operating Machine
20" (510)	0.71" (18)	8" (203.2)	45m/s	KONDO
24" (610)	0.71" (18)	12" (304.8)	45m/s	TOYODA
28" (710)	0.71" (18)	12" (304.8)	60m/s	NIPPEI
36" (915)	x	12" (304.8)	45m/s	Landis (Multi-Wheel)
42" (1065)				
18" (455)	x	12.050" (306.07)	Rough 60m/s Finish 33m/s	Landis (Dual Cycle)
24" (610)				
24" (610)	x	12" (304.8)		Landis
24" (610)	x	18" (457.2)		Landis
24" (610)	7/8" (22) 1" (25) 1-1/8" (28)	18" (457.2)	33m/s	Norton
24" (610)	x	18" (457.2)	50m/s	Warner and Swasey



Typical Machines Used

D	T	H	Max. Speed	Operating Machine
24" (610)	x	12.050"	60m/s	Warner and Swasey
25" (635)		(306.07)		
24" (610)	x	16.050"	50m/s	Warner and Swasey
		(407.67)		

Recommendations: production grinding

Application	Specification
Automotive (cast alloy and forgings)	
- roughing	A60-MV
- finishing	10A80-IV
- roughing and finishing (hand machine)	64A70-NV
- finishing bearings	A70-MV
- dual cycle (rough and finish with same wheel on same machine)	A60-NV
Automotive (hardened steel)	
- roughing	64A80-LV
- finishing	64A90-MV
- dual cycle (rough and finish with same wheel on same machine)	64A90-MV

When testing specifications, do not attempt to judge the wheel on lobe shape generated, as this is usually a function of the master cam. The master itself may have to be altered, particularly if changing from vitrified to organic wheels or vice-versa. The wheel itself should be judged on the stock removal rate G-ratio lobe-to-lobe size control, freeness of cut, etc.

*CBN wheels should be considered for production grinding of steel auto and diesel truck cam shaft lobes providing the machine has or can be equipped with CBN truing and dressing devices.

As most cam grinding machines are custom built to the part being ground, it is impossible

to properly specify a wheel without certain information. Before ordering any cam wheel, be sure to accurately obtain. The machine model and serial number. The actual spindle speed, roughing and finishing.

Application	Specification
Cast iron	
- roughing	A54-LV
- finishing	A80-LV
- dual cycle	A60-MV
- chilled iron	
- roughing	A54-LV
- finishing	A70-MV
- diesel and truck hardened forged shafts	
- roughing (100% burn free)	64A46-JV
- finishing	64A90-KV
- dual cycle (rough and finish with same wheel on same machine)	64A90-KV
- roughing bearings	64A54-LV
- finishing bearing	A70-LV

Regrinding

Application	Specification
Cast iron	A54-V
Chilled iron	A54-LV
Spheroidal graphite iron	A60-MV
Steel	
- roughing	64A46-LV
- finishing	64A80-LV
Steel (hardened)	64A60-JV



TOOL GRINDING WHEELS

For Tool & Cutter Grinding

Typical Application:

Off-hand grinding.

Twist drills with wheel periphery.

Cylindrical, taper, and chamfer grinding.

Broaches, chasers, etc. , with form-trued.
periphery.

Vitrified Tool Room Wheel Starting Recommendations

Workpiece	Operation	Wheel Shape	High Speed Steels		Carbide Tools	
			Small Size	Large Size	Standard	Improved Finish
Bits	Off-hand	1	WA60-KV	WA46-KV	GC80-KV	GC120-JV
	Forming	1	WA60-IV	WA46-JV	GC80-JV	GC120-HV
	Forming	6 & 11	WA60-IV	WA46-IV	GC80-HV	GC120-HV
	Surface	1	WA60-JV	WA46-JV	GC80-HV	GC120-HV
Steel Shank of Tools	Off-hand	1	WA46-PV	WA36-KV	-	-
Milling Cutter	Sharpening	12	WA60-JV	WA46-JV	GC80-HV	GC120-HV
	Grinding the sides	6 & 11	WA80-JV	WA60-JV	GC80-HV	-
End Mill	Sharpening	12	WA100-KV	WA80-KV	-	-
	Grinding the end	6 & 11	WA100-KV	WA80-JV	-	-
Twist Drill	Pointing	6 & 11	WA80-JV	WA46-KV	GC80-HV	-
	Pointing	1	WA60-JV	WA46-KV	GC80-HV	-
	Thining	1	WA80-KV	WA60-KV	GC80-HV	-
Reamer	Sharpening	12	WA80-JV	WA60-KV	-	-
	Fluting	1	WA80-IV	WA60-JV	-	-

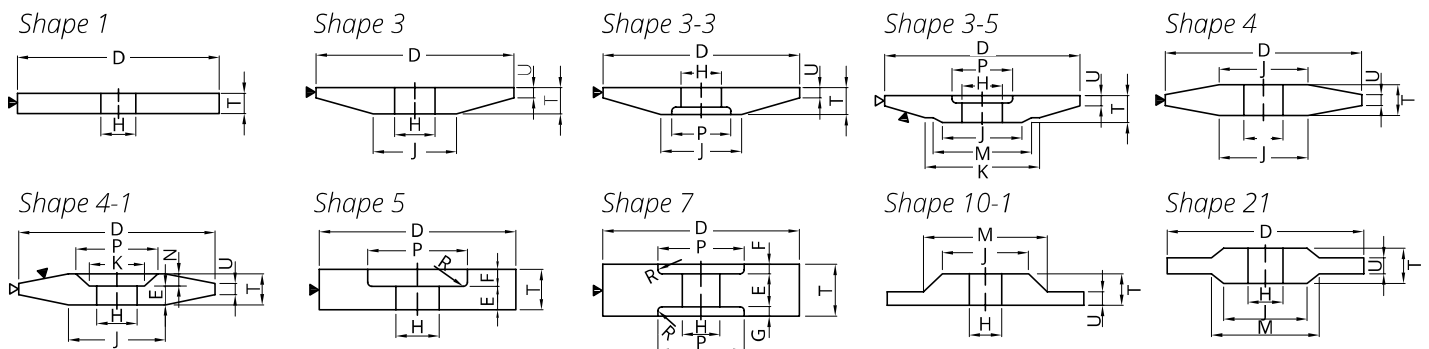


Vitrified Tool Room Wheel Starting Recommendations

Workpiece	Operation	Wheel Shape	High Speed Steels		Carbide Tools	
			Small Size	Large Size	Standard	Improved Finish
Tap	Relief	1		WA80-IV	-	-
	Fluting	1	SA150-LV	SA80-LV	-	-
	Threading	1		WA80-KV	-	-
Hob	Sharpening	1 or 4	SA46-KV	SA60-JV	-	-
Broach	Sharpening	12	SA100-HV	SA80-JV	-	-
Pinion Cutter	Sharpening	1		WA60-JV	-	-
Cutlery	Sharpening	12		WA80-120-JV	GC80-JV	GC120-JV

Note: Diamond wheels can be used grind carbide tools, and for HSS, use CBN wheels, Please refer to SL.Carborundum catalogue of super abrasives for further information.

Standard Shapes & Sizes: Straight Wheels



Standard Size

(inch)

D	T	H	P	J
2"	1/4. 3/8"	3/8". 1/2"		1"
3"	1/4. 3/8". 1/2"	3/8". 1/2". 3/4"		1 1/2"
3 1/2"	1/4. 3/8". 1/2"	3/8". 1/2". 3/4"		1 3/4"
4"	1/4. 3/8". 1/2"	1/2". 3/4". 1-1/4"		2"
4-1/2"	1/4. 3/8". 1/2"	1/2". 3/4". 1-1/4"		2 1/4"
5"	1/4. 3/8". 1/2". 5/8"	1/2". 3/4". 1-1/4"		2 1/2"
6"	1/4. 3/8". 1/2". 5/8". 3/4"	1/2". 3/4". 1-1/4"	3 1/8"	3"
7"	1/4. 3/8". 1/2". 5/8". 3/4". 1". 1-1/4"	1-1/4". 1-1/2". 2"	4"	3 1/2"
8"	1/4. 3/8". 1/2". 5/8". 3/4". 1". 1-1/4"	1-1/4". 1-1/2". 2"	4"	4"
10"	1/4. 3/8". 1/2". 5/8". 3/4". 1". 1-1/4"	1-1/4". 1-1/2". 2". 3"	5 3/8"	5"



Standard Size

(mm)

D	T	H	P	J
50	6. 10	9.53 12.70		25
75	6. 10. 13	9.53 12.70 19.05		38
90	6. 10. 13	9.53 12.70 19.05		45
100	6. 10. 13	12.70 19.05 31.75		50
115	6. 10. 13	12.70 19.05 31.75		58
125	6. 10. 13. 16	12.70 19.05 31.75		65
150	6. 10. 13. 16. 19	12.70 19.05 31.75	80	75
180	6. 10. 13. 16. 19. 25. 32	31.75 38.10 50.80	100	90
205	6. 10. 13. 16. 19. 25. 32	31.75 38.10 50.80	100	100
255	6. 10. 13. 16. 19. 25. 32	31.75 38.10 50.80 76.20	135	125

Note: Standard sizes of U are 2. 3. 4. 5. 6. 8. 10. 19. please specify it when ordering.



SAW GUMMING WHEELS

Saw gumming wheels are primarily used for shaping and reshaping of various types of saws, principally in the timber and woodworking industries as well as saw manufacturers.

Wheels are furnished in types 1 (straight) and 13 (saucer) designs with either a straight or a variety of face shapes.

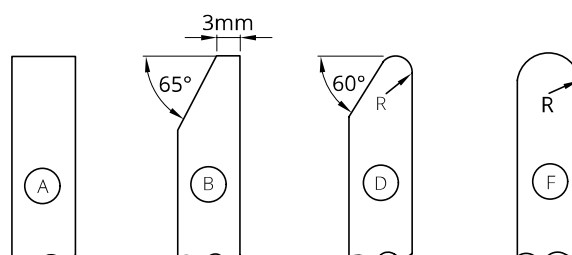
Specification Selection Guide

Application	Wheel Specifications	
	Vitrified	Resinoid
Band Saws (thick)	A46-LV	A46-MB
Band Saws (thin gauge)	A60-MV	A60-MB
Gang Saws	A46-MV	A46-MB
Mill Drag Saws	A46-LV	A46-MB
Taper Drag Saws	A46-LV	A46-MB
Circular Head Saw	A46-MV	A46-MB
Circular Log Saws	A46-LV	A46-MV

Application	Wheel Specifications	
	Vitrified	Resinoid
Circular Box Saws	A46-LV	A46-MB
Cross Cut Saws	A60-LV	A60-MB
Chain Saws	A60-MV	A60-MB
Metal Cutting Saws (steel)	A46-LV	A46-MB
Metal Cutting Saws (HSS)	PA60-MV	A60-MB
Metal Cutting Saws (stellite)	RA80-LV	A60-LB

Saw Gulleting for Manual and Automatic Machines (straight wheels-Type 1)

Select the face shape which best fits the gullet between the teeth of your saw.





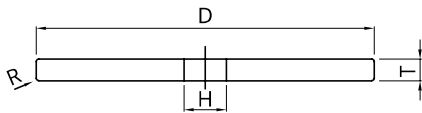
Saw Culling for Manual and Automatic Machines (straight wheels-Type 1)

Type	Standard Sizes (D x T x H)	Standard Specifications	Max. rpm
1B	150 x 6 x 12.70	WA80-LV	4,244
		WA100-LV	4,244
1B	205 x 6 x 15.88	WA-60-LV	3,600
		WA80-LV	3,600
		WA100-LV	3,600
1F	205 x 10 x 31.75	A60-LV	3,105
1F	205 x 13 x 31.75	A60-LV	3,105
1F	255 x 13 x 31.75	A46-LV	2,497

Type	Standard Sizes (D x T x H)	Standard Specifications	Max. rpm
1F	255 x 16 x 31.75	A46-LV	2,497
1F	255 x 20 x 31.75	A46-LV	2,497
1F	305 x 16 x 31.75	A36-LB	3,131
1F	305 x 20 x 31.75	A36-LB	3,131
1F	305 x 22 x 31.75	A36-LB	3,131
1F	305 x 25 x 31.75	A36-LB	3,131

For H.S.S. Metal Cutting (Straight wheels)

Type 1A (A Face)

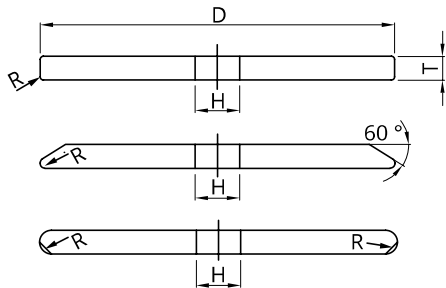


Standard Sizes (D x T x H)	Standard Specifications	Max. rpm
150 x 1 x 25	RA100-N7V	4244
150 x 1.5 x 25	RA100-N7V	4244
150 x 1.6 x 25	RA100-N7V	4244
150 x 1.75 x 25	RA100-N7V	4244

Standard Sizes (D x T x H)	Standard Specifications	Max. rpm
150 x 2 x 25	RA100-N7V	4244
150 x 3 x 25	RA100-N7V	4244
200 x 1.5 x 32	PA80-OV	3105
200 x 2 x 32	PA80-OV	3105
200 x 2.5 x 32	PA8-OV	3105
200 x 3 x 32	PA80-OV	3105

Chain Saw Sharpening Wheels

Type 1 (Straight Wheels)



A Face Wheels

D Face Wheels

F Face Wheels

Type	Standard Sizes (D x T x H)	Standard Specifications	Max. rpm
1A	125 x 3.2 x 12	A60-NB	7,639
1A	125 x 4.0 x 12	A60-NB	7,639
1A	140 x 3.8 x 12	A46-KV	4,547
1A	140 x 4.5 x 12	A46-KV	4,547
1F	140 x 3.2 x 22	PA60-LV	4,547
1F	145 x 4.7 x 22	PA60-LV	4,390
1F	145 x 6.0 x 22	PA60-LV	4,390



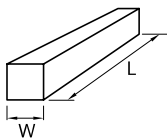
POLISHING STONES FOR MOLD & DIE

Applications:

For modifying, or polishing metal molds, cutting tools, or jigs. In order to prevent scratches and get better surface finish on workpiece.

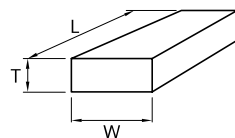
Standard Shapes & Sizes

Type 60 Square/Flat



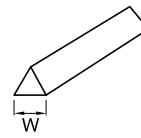
Standard Sizes (L x W)	
mm.	inch.
100 x 3	4" x 1/8"
100 x 6	4" x 1/4"
100 x 8	4" x 5/16"
100 x 10	4" x 3/8"
100 x 13	4" x 1/2"
100 x 16	4" x 5/8"
150 x 6	6" x 1/4"
150 x 10	6" x 3/8"
150 x 13	6" x 1/2"
150 x 19	6" x 3/4"
150 x 25	6" x 1"

Type 60 Rectangular/Flat



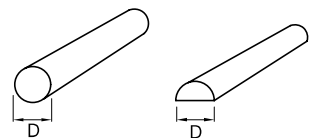
Standard Sizes (L x W x T)	
mm.	inch.
100 x 3 x 1.5	4" x 1/8" x 1/16"
100 x 6 x 1.5	4" x 1/4" x 1/16"
100 x 13 x 1.5	4" x 1/2" x 1/16"
100 x 13 x 3	4" x 1/2" x 1/16"
100 x 25 x 13	4" x 1" x 1/2"
150 x 6 x 1.5	6" x 1/4" x 1/16"
150 x 13 x 1.5	6" x 1/2" x 1/16"
150 x 13 x 3	6" x 1/2" x 1/8"
150 x 13 x 6	6" x 1/2" x 1/4"
150 x 13 x 10	6" x 1/2" x 3/8"
150 x 19 x 6	6" x 3/4" x 1/4"
150 x 25 x 3	6" x 1" x 1/8"
150 x 25 x 6	6" x 1" x 1/4"
150 x 25 x 13	6" x 1" x 1/2"

Type 61 Triangular



Standard Sizes (L x W)	
mm.	inch.
100 x 6	4" x 1/4"
100 x 8	4" x 5/16"
100 x 10	4" x 3/8"
100 x 13	4" x 1/2"
100 x 16	4" x 5/8"
150 x 6	6" x 1/4"
150 x 10	6" x 3/8"
150 x 13	6" x 1/2"
150 x 19	6" x 3/4"
150 x 25	6" x 1"

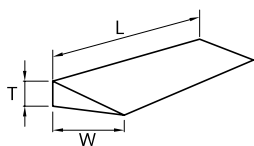
Type 62 Round
Type 63 Half Round



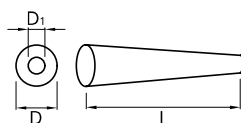
Standard Sizes (L x D)	
mm.	inch.
100 x 3	4" x 1/8"
100 x 6	4" x 1/4"
100 x 8	4" x 5/16"
100 x 10	4" x 3/8"
100 x 13	4" x 1/2"
150 x 6	6" x 1/4"
150 x 10	6" x 3/8"
150 x 13	6" x 1/2"
150 x 19	6" x 3/4"
150 x 25	6" x 1"



Type 69K Knife Blade



Type 69T Tapered Round


**Standard Sizes
(L x W x H)**

mm.	inch.
100 x 25 x 3	4" x 1" x 1/8"
150 x 32 x 6	6" x 1-1/4" x 1/4"

**Standard Sizes
(L x D x D1)**

mm.	inch.
100 x 8 x 1.2	4" x 5/16" x 3/64"
100 x 10 x 3	4" x 3/8" x 1/8"
100 x 13 x 6	4" x 1/2" x 1/4"

Polishing Stone Types & Description

Type	Color	Grit Size	Bond/Abrasive	Application
38A	Orange	120, 180, 220 320, 400, 600	Hard/Al. Oxide	Specially formulated for EDM scale removal
A	Light Grey	150, 220, 320 400, 600, 800 1000	Medium/Al. Oxide	General Purpose on steel
WA	White	120, 220, 320 400, 600	Semi-hard/Al. Oxide	Well defined cutting edges and excellent shape
WT	Ivory	120, 220, 320 400, 600, 800	Semi-hard/Al. Oxide	Oil filled, a fast cutting, minimize loading stones
C	Dark Grey	120, 220, 300 400, 600, 1000	Medium/Silicon Carbide	Very fast cutting with rapid breakdown
GC	Green	120, 220, 320 400, 600, 1000	Medium/Silicon Carbide	More sharp than C type stones

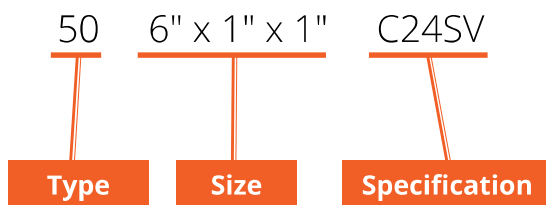


DRESSING STICKS & TRUING WHEELS

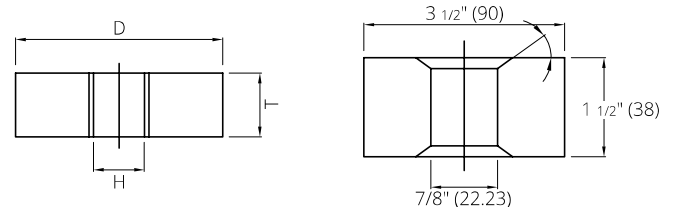
Dressing Sticks are used primarily in off-hand dressing of diamond and CBN wheels and for off hand truing and dressing of medium grit, medium and soft grade vitrified grinding wheels.

Dresser wheels for brake dresser designed for truing diamond and CBN wheels.

Ordering Code (Example)



Truing & Dressing Wheels for Brake Truing Device



Type	Standard Size (D x T x H)		Spec.
	mm	inch	
50	150 x 20 x 20	6" x 3/4" x 3/4"	C24-SV
	150 x 25 x 25	6" x 1" x 1"	C24-SV
	200 x 25 x 25	6" x 2" x 1"	C24-SV
	150 x 20 x 20	8" x 1" x 1"	C24-SV
	200 x 50 x 25	8" x 2" x 1"	C24-SV
	200 x 75 x 500	8" x 3" x 2"	C24-SV
1	65 x 13 x 28.58	2-1/2" x 1/2" x 1-1/8"	WA60-MV
			WA80-MV
			C46-RV
			C46-RV

Type	Standard Size (D x T x H)		Spec.
	mm	inch	
1	65 x 13 x 28.58	2-1/2" x 1/2" x 1-1/8"	C20-SV
			C24-SV
			C36-SV
1	65 x 35 x 28.58	2-1/2" x 1-3/8" x 1-1/8"	C20-RV
			C30-PV
1	75 x 25 x 12.7	3" x 1" x 1/2"	GC120-HV
1	75 x 25 x 19.05	3" x 1" x 3/4"	C60-MV
			C46-RV
			C46-SV
1S	90 x 38 x 22.23	3-1/2" x 1-1/2" x 7/8"	C24-SV
			C30-SV



Dressing Sticks for Resinoid Diamond & CBN Wheels

Type	Size		Spec.
60	75 x 20 x 8mm 3" x 3/4" x 5/16"	4B-WA220-GV	CBN200 & Coarser
		6B-WA400-GV	CBN230~400
		8B-WA1000-GV	CBN500 & Finer
		4D-WA220-HV	Dia.200 & Coarser
		6D-WA400-HV	Dia.230~400
		8D-WA1000-HV	Dia.500 & Finer
60	100 x 20 x 20mm 4" x 3/4" x 3/4"	4B-WA220-GV	CBN200 & Coarser
		6B-WA400-GV	CBN230~400
		8B-WA1000-GV	CBN500 & Finer
		4D-WA220-HV	Dia.200 & Coarser
		6D-WA400-HV	Dia.230~400
		8D-WA1000-HV	Dia.500 & Finer
60	100 x 20 x 20 4" x 3/4" x 3/4"	C80-NV	For #80 & Coarser
		C150-MV	For #100 ~ #200
		C220-KV	For #240 & Finer
60	150 x 20 x 20 6" x 3/4" x 3/4"	C80-NV	For #80 & Coarser
		C150-MV	For #100 ~ #200
		C220-KV	For #240 & Finer
60	150 x 25 x 25 6" x 1" x 1"	C80-NV	For #80 & Coarser
		C150-MV	For #240 & Finer
		C220-KV	For #80 & Coarser

Brake Turing Device: Model #100

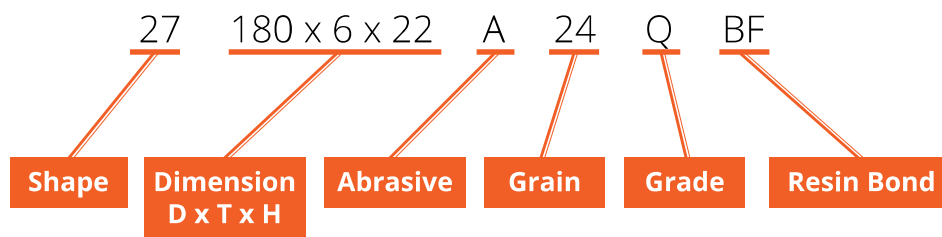
Designed for truing diamond and CBN wheels rapidly, effectively and with minimum loss of diamond. Idea for truing the following diamond and CBN wheel types:

1. Straight wheels with diamond in the periphery as used on chip breaker, tool and cutter, surface and cylindrical grinding machines.
2. Cut-off wheels.
3. Internal grinding wheels.
4. Cup wheels with diamond in the rim as used on vertical spindle surface grinders.



REINFORCED RESINOID DEPRESSED CENTRE WHEELS

Recommendations



Features	Workpieces	Steel & Iron	Stainless Steel	Masonry & Concrete
Standard		A24-Q	WA24-P	C30-R
Long Life		A24-R AZ24-S	WA24-Q	C24-S C30-S
Free Cut		A24-O AC24-P	WA36-P	C24-Q

- Note:
1. The recommendations listed above are based on applying wheels of 6mm (1/4") in thickness.
 2. AZ abrasive (Ziconia Alumina grain blended with alumina oxid) achieves excellent performance for metal grinding.
 3. ZCabrasive (Ziconia Alumina grain blended with Silicon carbide) ideal for broad range of fundry applications.
 4. SL.Carborundum DG-Diamond Turbo is the first choice Disc for masonry & Concrete Application.



Standard Sizes & Specifications-For Metal

Size	Specifications	Max. rpm
50 x 4 x 9.53mm 2" x 5/32" x 3/8"	A36Q-BF	27400
65 x 4 x 9.53mm 2-1/2" x 5/32" x 3/8"	A36Q-BF	21600
75 x 4 x 9.53mm 3" x 5/32" x 3/8"	A36Q-BF WA46P-BF	18000 18000
100 x 3 x 16mm 4" x 1/8" x 5/8"	A36Q-BF	13700
100 x 4 x 16mm 4" x 5/32" x 5/8"	A36P-BF	13700
100 x 6 x 16mm 4" x 1/4" x 5/8"	A24-P-BF A24-Q-BF2 A24R-BF2 AC24P-BF2 WA24P-BF2	13700 13700 13700 13700 13700
115 x 3 x 22mm 4-1/2" x 1/8" x 7/8"	A36S-BF2 (DC445)	13200
115 x 6 x 22mm 4-1/2" x 1/4" x 7/8"	A36S-BF2 (DC462)	13200
125 x 6 x 22.23mm 5" x 1/4" x 7/8"	A24P-BF2 A24Q-BF2 A24R-BF2 AC24P-BF2 WA24P-BF2	11000 11000 11000 11000 11000

Size	Specifications	Max. rpm
150 x 6 x 22.23mm 6" x 1/4" x 7/8"	A24Q-BF2	9100
180 x 3 x 22.23mm 7" x 1/8" x 7/8"	A30Q-BF2 WA30P-BF	7600 7600
180 x 6 x 22.23mm 7" x 1/4" x 7/8"	A24P-BF2 A24Q-BF2 A24R-BF2 A24S-BF2.5 AC24P-BF2 AC24Q-BF2 WA24P-BF2	7600 7600 7600 8500 7600 7600 7600
180 x 6.4 x 22.23mm 7" x 1/4" x 7/8"	A24R-BF2.5 A24S-BF2.5 ZC24S-BF2.5	8500 8500 8500
230 x 3 x 22.23mm 9" x 1/8" x 7/8"	A30S-BF	6600
230 x 6.4 x 22.23mm 9" x 1/4" x 7/8"	A24R-BF2.5 AZ24S-BF2.5 ZC24S-BF2.5	6600 6600 6600

Adapter Hubs



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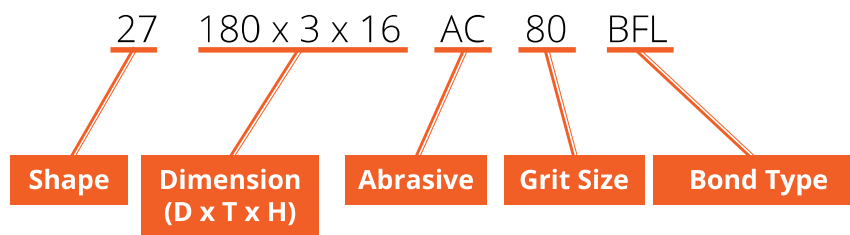
Note : 5/8"-11 NCRH HUBS are threader for mounting onto 7" & 9" depressed center wheels with 7/8" center hole of portable right angle or vertical shaft grinders with standard 5/8"-11NCRH spindles.



FLEXIBLE DEPRESSED CENTER WHEELS

Flexible wheels, with moderate flexibility, are used for light grinding, and finishing of steel and bevelling glass or marble edges.

Standard Wheels Marking: (Example)



Recommendations

Workpiece Grain Size	For Metal			Glass & Marble
	Standard	Longer Life	High Flexibility	
Coarse	AC 46 AC46	AZ 36 AZ46	WA 36 WA60	GC 46
Medium	AC 60 AC80	AZ 60 AZ80	WA 60 WA80	GC 80 GC100
Fine	AC 100 AC120	AZ100 AZ120	WA 100 WA220	GC 120

Note: 1. GC-S is special design for stone application.



Standard Sizes & Specifications

Sizes	Specifications	Max. rpm	Remark	Sizes	Specifications	Max. rpm	Remark
100 x 2 x 16mm 4" x 3/32" x 5/8"	WA60	13,700		100 x 3 x 16mm 4" x 3/8" x 5/8"	GC46S	13,700	
	WA80	13,700			GC60S	13,700	
	WA100	13,700			GC80S	13,700	
	WA120	13,700			GC100S	13,700	
	AC100	13,700			GC120S	13,700	
	AC120	13,700		180 x 2 x 22.23mm 7" x 3/32" x 7/8"	WA60	7,600	
100 x 3 x 16mm 4" x 3/8" x 5/8"	AC46	13,700			WA80	7,600	
	AC60	13,700			WA100	7,600	
	AC80	13,700			WA120	7,600	
	AZ46	13,700			AC100	7,600	
	AZ60	13,700			AC120	7,600	
	A80	13,700		180 x 3 x 22.23mm 7" x 1/8" x 7/8"	AC60	7,600	
100 x 3 x 16mm 4" x 3/8" x 5/8"	GC46	13,700			AC80	7,600	
	GC60	13,700			AZ36	7,600	
	GC80	13,700			AZ46	7,600	
	GC100	13,700					
	GC120	13,700					
	GC220	13,700					



REINFORCED RESINOID CUT-OFF WHEELS

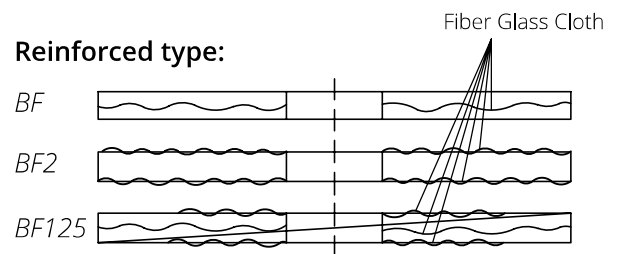
Recommendations

Work material	Standard	High performance
Mild steel	A24-Q	FA24-Q
Stainless Steel	A30-P	WA36-P
Cast Iron, Bronze	A24-Q	AC24-S
Masonry & Concrete	A20-Q	C20-S

Explanation of Specification (Example)

30	100 x 2 x 16	A	36	S	BF
Type	Size	Abrasive	Grit Size	Grade	Reinforced Type

Reinforced type:



For Metal-BF

Size	Specifications	Max. rpm
100 x 2 x 16mm 4" x 5/64" x 5/8"	A36S-BF	13,700
125 x 2 x 22.23mm 5" x 5/64" x 7/8"	A36S-BF	11,000
150 x 2 x 22.23mm 6" x 5/64" x 7/8"	A36S-BF	9,100

Size	Specifications	Max. rpm
180 x 2 x 22.23mm 7" x 5/64" x 7/8"	A36S-BF	11,000
	AC36P-BF	7,600
255 x 3 x 25.4mm 10" x 1/8" x 1"	A24Q-BF	4,700
305 x 3 x 25.4mm 12" x 1/8" x 1"	A24Q-BF	4,000
	A30P-BF	4,000