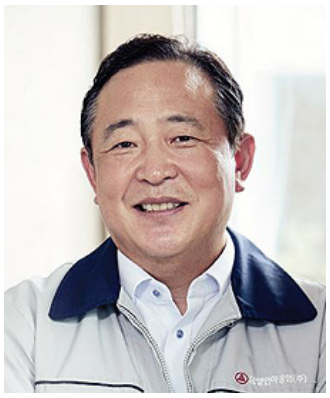
“ABRASIVE TOOLS THAT EXCEED YOUR NEEDS”

Reaching out to global partners

SAMYANG ABRASIVES


SAMYANG
영 천 시 본 촌 농 공 단 지

GREETINGS



Samyang Abrasives Co. is a pioneer leading the market in the field of grinding wheels based on business capabilities and technology accumulated over half a century.

Samyang Abrasives Co. supplies high-quality and highly reliable grinding wheels to meet the diverse needs of customers, from the steel and shipbuilding industries to automobile, aviation parts, construction, and machinery parts and material suppliers.

At the cusp of the 4th Industrial Revolution, the role of grinding and grinding materials in a wide range of fields such as semiconductors, displays, and batteries is expected, while market demands are also diversifying and becoming more complex.

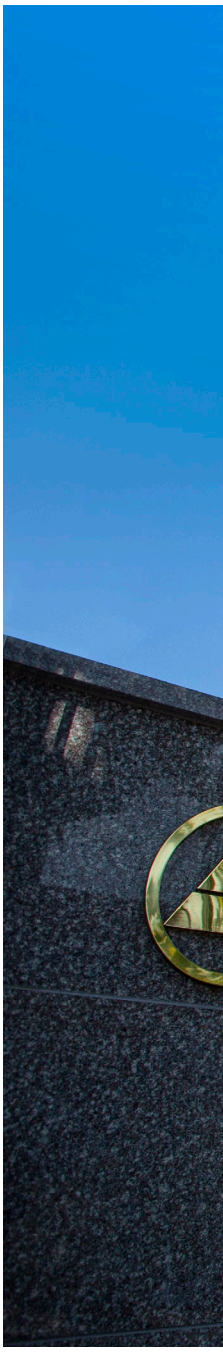
In keeping with the 4th Industrial Revolution, Samyang Abrasives Co. is constantly pursuing innovation and exerting diligent efforts to provide a wide range of solutions not only for infrastructure industries such as steel and shipbuilding, but also for high-tech materials processing such as semiconductors and displays.

We strive to be a company that fulfills our social responsibilities based on customer-centered management and commitment to taking on challenges for the future.

We ask for your unwavering support and interest to the professional endeavors and passion of Samyang Abrasives Co., which has been in business for over 70 years.

Thank you very much.

CEO Donald.G Sohn 손동기




삼양연마공업(주)
SAMYANG ABRASIVES CO.,LTD
26
삼양연마공업(주)
SAMYANG ABRASIVES CO.,LTD

Samyang Abrasives Co., Ltd. comprehensively manufactures and supplies products in all areas/ domains that require abrasive processes.

We provide comprehensive polishing solution services from the steel industry to automobiles, auto parts, bearings, and various other ultra-precision grinding fields, while also manufacturing up to 2000mm(OD) products from Resinoid Grinding Wheels to Vitry and CBN/DIA wheels.

In addition, the use of self-developed bonds provides the optimal customized design well-adapted to customers' grinding environment. As a result, we will work to deliver the best customer satisfaction with cutting-edge technology.

Certificate of Registration Certificate of Registration

G-CERTI *certificate*

hereby certifies that

SAMYANG ABRASIVES CO., LTD.

Head Office: 30, Bongdo-gil, Yeongcheon-si, Gyeongsangbuk-do, Korea.
Factory: 34, Bonchongongdan 1-gil, Yeongcheon-si, Gyeongsangbuk-do, Korea.

meets the Standard Requirements & Scope as following

ISO 9001:2015
Quality Management Systems

DESIGN, DEVELOPMENT, PRODUCTION, SALES AND SERVICING OF GRINDING STONES

Certificate No : GKC-0861-QC
Valid Period : 27 Dec 2022 ~ 26 Dec 2025
Initial Date : 27 Dec 2016 Issue Date : 16 Dec 2022
Expiry Date : 26 Dec 2025

Signed for and on behalf of GCERTI
President I.K.Choi

G-CERTI SYSTEM SERVICE MSCB-113

To verify the validity of this certificate please visit : www.gcerti.com
Korea, Seoul, Eunpyeong-gu, Eunpyeong-ro, 88, 15F. Surveillance audits shall be conducted at least once a calendar year, except in recertification years. This is to certify that the Management Systems of this company has been found to conform to the above. If the certified client does not allow surveillance, recertification audits, certificate should be returned to GCERTI. This certificate remains the property of GCERTI and this certificate is recognized by GCERTI.

IAS ACCREDITED Management Systems Certification Body MSCB-113

IAF MUTUAL RECOGNITION ARRANGEMENT

Factory 1

Location	30 Dongdo-gil, Yeongcheon city, Gyeong-buk, S. Korea		
Plant site	6,918㎡	**Facility site**	4,261㎡
Products	Vitrified Grinding Wheels		
	Flap Disc		

Factory 2

Location	34 Bonchongongdan-1gil, Yeongcheon city, Gyeong-buk, S. Korea		
Plant site	10,203㎡	**Facility site**	4,500㎡
Products	Resinoid Roll Grinding Wheels & others		
	Nuts Inserted Disc & Ring-type Grinding Wheels		
	Resinoid Cutting Wheels		
	Resinoid Off-Set Wheels		

Factory 3

Location	102, 41 Namdong-dong-ro, Gojan-dong, Namdong-gu, Inchon city, Gyeong-gi, S. Korea		
Plant site	495㎡	**Facility site**	396㎡
Products	Resinoid CBN/DIAMMOND Wheels		
	Vitrified CBN/DIAMOND Wheels		
	Vitrified Diamond Double Disc		

S I N C E

1951

History

1951. 03.25. Mr. Se-Ho Sohn & Mr. Yeol-Ho Sohn founded Samyang Abrasives Co. (Daegu, S. Korea).

1967. 01.26. Acquired Korea Standard ㉾ mark KSL 6501 for Vitrified Abrasives

1977. 06.30. Appointed as a New town factory.(The Ministry of Commerce No. 77-16)

1977. 07.27. Incorporated Samyang Abrasives Co.,Ltd.

1978. 03.20. Received Industrial Service Medal (No.554)

1978. 06.17. Acquired Korea Standard ㉾ mark for Resinoid Grinding Wheel 6212

Acquired Korea Standard ㉾ mark Resinoid Cutting Wheel 6504

Acquired Korea Standard ㉾ mark Resinoid Offset Grinding Wheel 6505

2013. 08.21. Mr. Donald G. Sohn appointed the 3rd generation President of Samyang Abrasives Co.,Ltd.

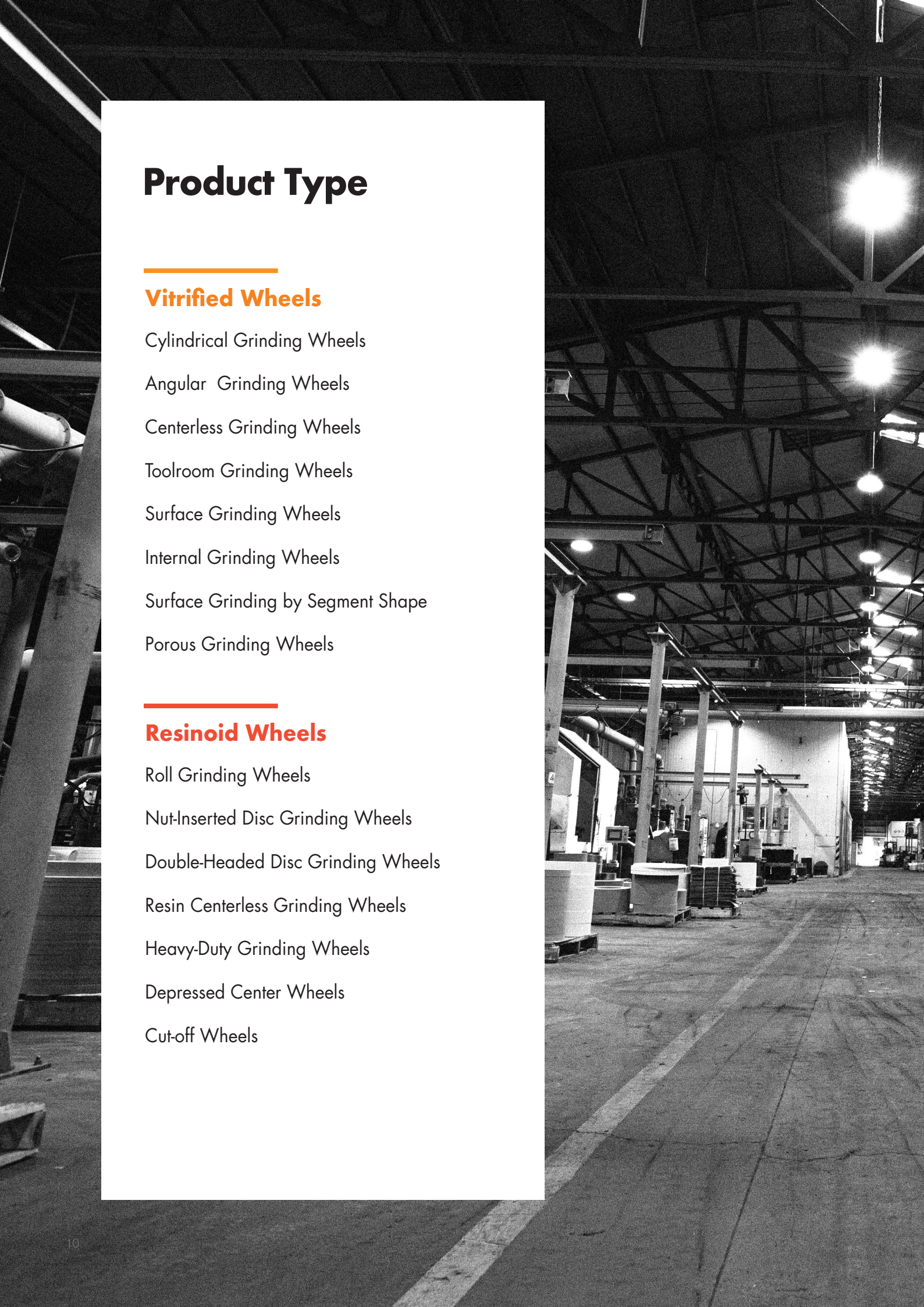
2016. 12.26. Acquired ISO 9001

2017. 02.16. Established Diamond and CBN Company Samyang Sentech Co.,Ltd

2021. 11.18 Acquired Certificate of Gyeongbuk Pride Company

2022. 10.12 Acquired The 25th Grand Prix Industrial Peace of Gyeongsangbuk-do Bronze Prize

SAMYANG
ABRASIVES



Product Type

Vitrified Wheels

Cylindrical Grinding Wheels

Angular Grinding Wheels

Centerless Grinding Wheels

Toolroom Grinding Wheels

Surface Grinding Wheels

Internal Grinding Wheels

Surface Grinding by Segment Shape

Porous Grinding Wheels

Resinoid Wheels

Roll Grinding Wheels

Nut-Inserted Disc Grinding Wheels

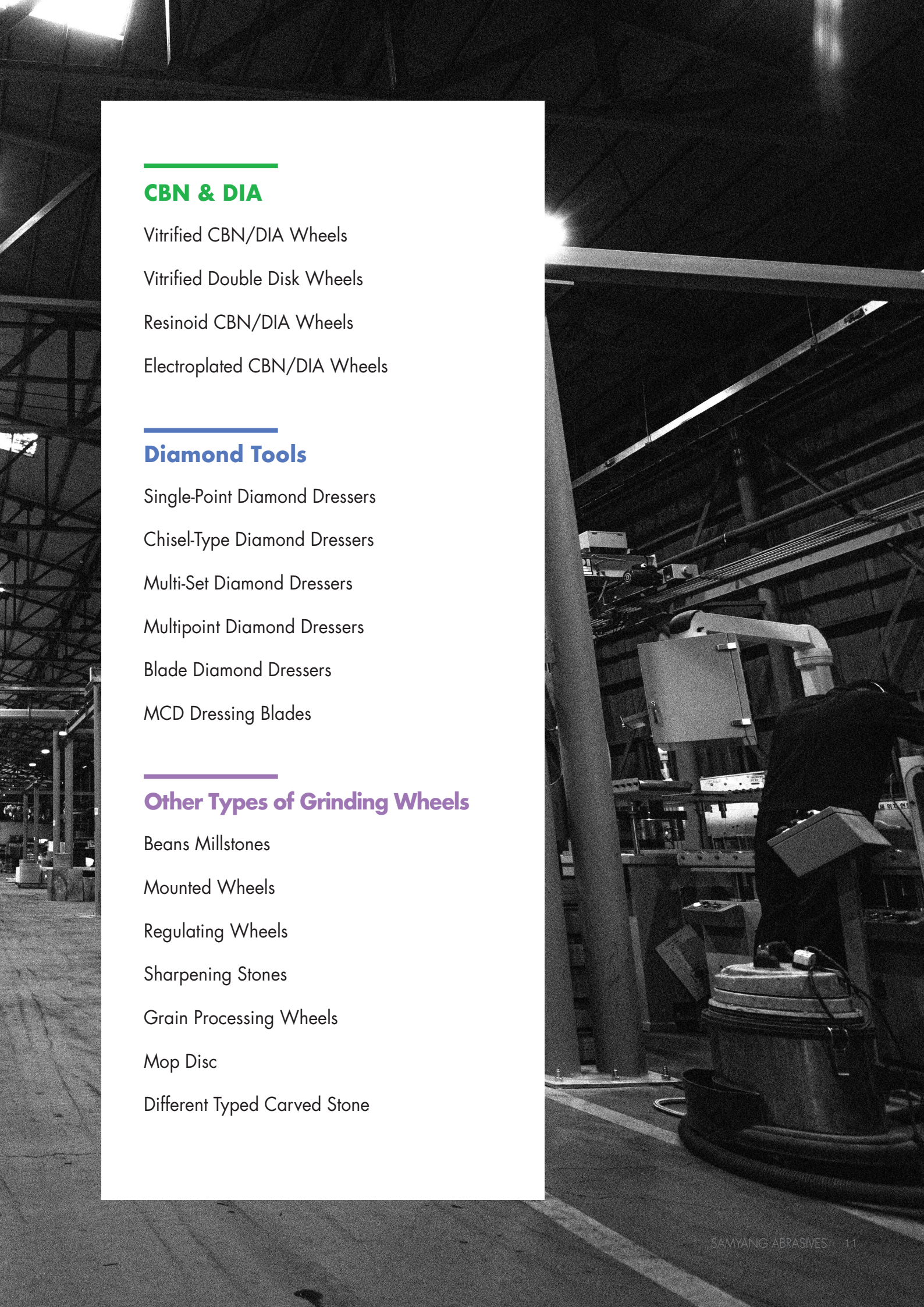
Double-Headed Disc Grinding Wheels

Resin Centerless Grinding Wheels

Heavy-Duty Grinding Wheels

Depressed Center Wheels

Cut-off Wheels



CBN & DIA

Vitrified CBN/DIA Wheels

Vitrified Double Disk Wheels

Resinoid CBN/DIA Wheels

Electroplated CBN/DIA Wheels

Diamond Tools

Single-Point Diamond Dressers

Chisel-Type Diamond Dressers

Multi-Set Diamond Dressers

Multipoint Diamond Dressers

Blade Diamond Dressers

MCD Dressing Blades

Other Types of Grinding Wheels

Beans Millstones

Mounted Wheels

Regulating Wheels

Sharpening Stones

Grain Processing Wheels

Mop Disc

Different Typed Carved Stone

Grinding Wheels are composed of three major elements: abrasive grains, binders, and pores. The hardness of the abrasive grain is high, making it easy to process hard materials that are difficult to process with other cutting tools. When it increases, it has the advantage of being able to continue the grinding operation as it has a self-sustaining action in which the grinding stone particles fall off.

Three major elements of grinding

Abrasive Grain : A particle that grinds the workpiece as a cutting edge. Various types (types & and grades of abrasive grains such as A, WA, Zr, PA, RU, C, GC, SS, CBN, DIAMOND) and size. (8 to 6000 mesh)
Binder : A binder that binds abrasive grains to maintain the shape of the grinding stone. There are various types such as resin, vitrified, rubber, epoxy, and metal. The strength is attributed to the amount of binder in put (from D to Z in alphabetical order), and the coarseness and density of the tissue are adjusted to affect grinding efficiency.
Pore : An empty space that discharges the cutting powder and cools the grinding heat. The more pores there are, the higher the heat dissipation efficiency, but it is designed appropriately for the purpose of grinding because it can have a mutually alternative effect in the form of affecting the lifespan, if needed.

Grinding stone notation

WA	60	J	6	V
Abrasive names: Grain Type	Mesh	Hardness	Structure	Bond
A: Brown Aluminium oxide	8~14 : Very coarse	D,E : Extremely soft	3~5 : Close	V : vitrified
WA: White Aluminum oxide	16~36 : Coarse	F,G : Very soft	6~9 : Medium	B: resinoid
PA: Pink Aluminum oxide	46~80: Medium	H,I: soft	10~13: open	EF: epoxy
RU: Rubi Aluminum oxide	80~240: Fine	J,K,L,M : Medium	14~19: Porous	
19A: Mono crystal	240~800: Very Fine	N,O,P,Q: Hard	20~24: very porous	
32A: Mono crystal + special mix		R,S: Very hard		
C: Black silicon carbide		T,U,Z : Extremely hard		
GC: Green silicon carbide				
SS: Ceramic grain				

SD	800	N	160	V	8
Abrasive names : Grain Type	Mesh	Hardness	Concentration	Bond	Abrasive Thickness
D: Natural Diamond	16~15000	J~R	25	V : Vitrified	mm 단위
SD: Synthetic Diamond			50	B: Resinoid	
SDC: Metallic composite diamond			75	M: Metal	
BN: Cubic boron nitride			100	P: Electroplated	
BNC: Metallic composite CBN			125		
			150		
			160		
			175		
			200		

How to select a suitable grinding wheels

The most important factor in selecting a grinding stone is to accurately understand the overall grinding condition.
All grinding environments such as workpiece/ equipment/ grinding conditions/ grinding oil/ dressing method are blended in harmony so that the best grinding wheel can be selected.
Based on the basic specifications as shown in the table below, Samyang's Technical Support Team can consult on what customized wheels are optimal for your grinding conditions.

spec	Cast iron		General structural steel	Non-heat treatment									Centerless grinding
	Cast iron	Ductile		Carbon steel	Carbon tool steel	Alloy tool steel	Chromium molybdenum steel	Nickel chromium-molybdenum steel	Hot die steel	Cold die steel	High-speed tool steel	Stainless steel	
	FC250, etc.	FC600, etc	SS400	S45C, S50C, etc.	SK4~, SK5~, etc.	SK53, etc.	SCM435	SNCM435	SKD61	SKD11, DC53, etc.	SKH51, etc.	SUS404C,STAVAX, HPM38, etc.	
WA			BEST	BEST	BEST	GOOD	BEST	BEST	GOOD	GOOD	BEST	GOOD	
PA/RU						BEST			BEST	BEST		GOOD	
19A													BEST
32A			GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	BEST	GOOD
GC	BEST	BEST										GOOD	
SS, SG			GOOD	GOOD	GOOD	GOOD			GOOD	GOOD		GOOD	
CBN													
DIA													GOOD

spec	Nonferrous metals			Heat treatment									Austenitic
	Copper	Aluminum	Carbide	Carbon steel	Carbon tool steel	High-speed tool steel	Stainless steel	Alloy tool steel	Chromium molybdenum steel	Nickel chromium-molybdenum steel	Hot die steel	Cold die steel	Stainless steel
				S45C, S50C, etc.	SK4~, SK5~, etc.	SKH51, etc.	SUS404C, STAVAX, HPM38, etc.	SK53, etc.	SCM435	SCM435	SKD61	SKD11, DC53, etc.	SUS303, 304
				HRC 35~55	HRC 55~62	HRC 61~64	HRC 50~53	HRC 5 5~62	HRC 20~45	HRC 20~45	HRC 48~52	HRC 60~64	
WA				GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	
PA/RU				GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	
19A													
32A	GOOD	GOOD		BEST	GOOD	GOOD	GOOD	GOOD	BEST	BEST	GOOD	GOOD	
GC	BEST	GOOD	GOOD										GOOD
SS, SG					BEST	BEST	BEST	BEST			BEST	BEST	
CBN	BEST				BEST	BEST	BEST				GOOD	BEST	
DIA	BEST				BEST	BEST	BEST				GOOD	BEST	

SAMYANG ABRASIVES

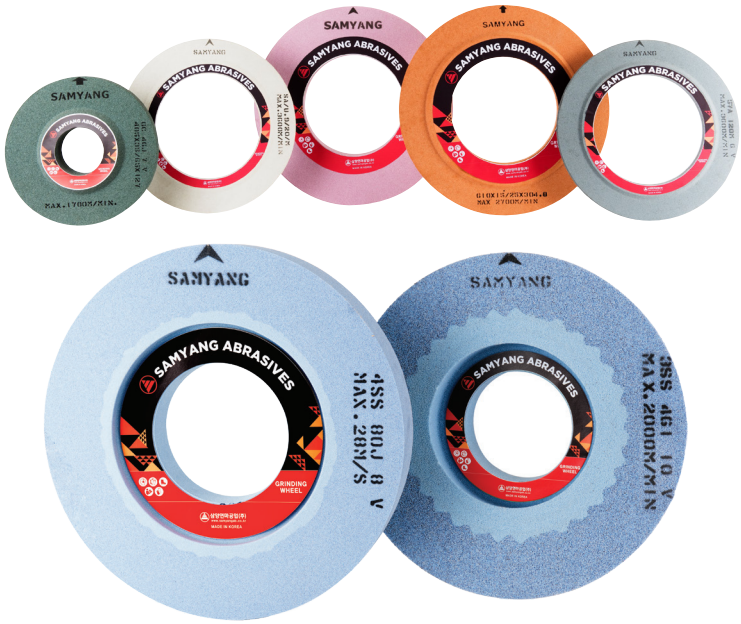
Vitrified Wheels / Precision Abrasive

Samyang Abrasive Precision Machining Grinding Wheels can greatly improve your grinding process.
These wheels provide many benefits including improved grinding performance, smoother chip evacuation, improved wheel life, and longer dressing cycles.
This is made feasible by 11 kinds of self-developed bond and polishing wheel manufacturing technology, made possible by our know-how accumulated over decades.
Introducing Samyang Abrasive's various ultra-precision grinding wheels.

YING

Cylindrical Grinding Wheels
Angular Grinding Wheels

Samyang Abrasive Precision Machining Grinding Wheels can greatly improve your grinding process.
These benefits include improved grinding performance, smoother chip evacuation, improved wheel life, and longer dressing cycles.
This is made feasible by 11 kinds of self-developed bond and polishing wheel manufacturing technology, well-achieved with our know-how accumulated over decades.
Introducing Samyang Abrasive's various ultra-precision grinding wheels.



Dimension Chart

OD	T	ID	Max speed
305	50	76.2	63m/s
355	50	152.4	63m/s
405	60	152.4	63m/s
450	80	250	63m/s
455	80	254	63m/s
510	100	203.2	63m/s
610	124	304.8	63m/s
660	100	304.8	63m/s
710	100	304.8	63m/s
760	150	304.8	63m/s

* Size can be customized

Centerless Grinding Wheels

Unlike an ordinary cylindrical grinding wheel, the mass-production effect can be achieved by rapidly and continuously grinding the workpiece without supporting its center, while the grinding wheel, regulating wheel, and workpiece jointly support each other in contact together to move the workpiece.

In general, it is well-suited for grinding a workpiece with a small diameter.

Experience the unrivaled performance of the grinding process with Samyang's centerless wheel, which provides stable performance in various fields such as bearings, automobile parts, mechanical parts, etc.

Dimension Chart

OD	T	ID	Max speed
405	205	228.6	45m/s
455	205	203.2	45m/s
510	205	228.6	45m/s
600	150	304.8	45m/s
606	200	254	45m/s
610	305	304.8	45m/s
614	203.33	304.8	45m/s

* Size can be customized

Toolroom Wheels

For tool grinding, the shape of the workpiece is very diverse, as are the types, properties, and working methods. The main processing products include milling cutters, taps, metal saws, reamers, gears, broaches, and drills. Introducing Samyang's Toolroom wheels provide faster and cooler grinding, a better finish with sharper cutting edges, less dressing, and longer wheel life.

Dimension Chart

OD	T	ID	Max speed
100	50	15.88	50m/s
120	47	63.5	50m/s
150	19	31.75	50m/s
180	19	31.75	50m/s
205	25	25.4	50m/s
210	50	31.75	50m/s
220	13	76.2	50m/s
250	21.7	50	50m/s
305	50	76.2	50m/s
355	50	152.4	50m/s

* Size can be customized

Surface Grinding Wheels

For surface grinding, two basically different types of machines are used. The first is the vertical spindle-type and the second is horizontal spindle-type machine. Discs, rings, and segments are also employed as surface grinding operations.

They grind many types of workpieces where surface finish and flatness are required, as well as grinding bearing parts, piston rings, connecting rods, springs, and automobile parts.

In the process that requires dimensional tolerance and flatness in microns of grinding, we strive to increase process efficiency with the surface grinding wheels from Samyang.

Dimension Chart

OD	T	ID	Max speed
205	19	31.75	63m/s
180	19	31.75	63m/s
305	50	127	63m/s
355	50	127	63m/s
455	50	127	63m/s
510	50	127	63m/s
610	130	304.8	63m/s
660	100	203.2	63m/s
710	100	304.8	63m/s
760	100	304.8	63m/s

* Size can be customized

Internal Grinding Wheels

A small grinding wheel used in a method of rotating a workpiece, while maintaining it as a rotating shaft and grinding the inner surface as the workpiece is rotated at a high speed from within.

- Self-developed vitrified binder internal grinding wheels
- Selection of abrasive and grain size according to the material of the workpiece
- Applicable to excellent ceramic grain
- Products of various shapes can be manufactured. It is used to obtain the correct hole size and required surface finish
- Suited to grinding inner surfaces such as bearing races and bushings with small diameter races

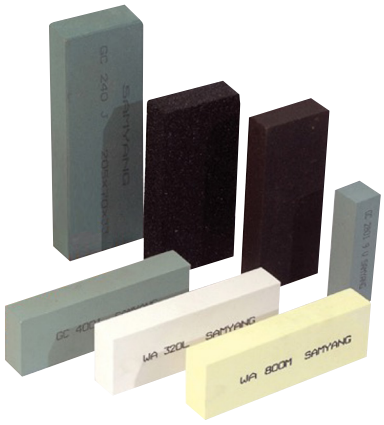
We can custom-tailor almost any type of bore stone you prefer. Please contact your nearest sales dealer/ branch for specifications and dimensions.
We can recommend the optimal wheels that provides the best grinding efficiency at a high-speed rotation.

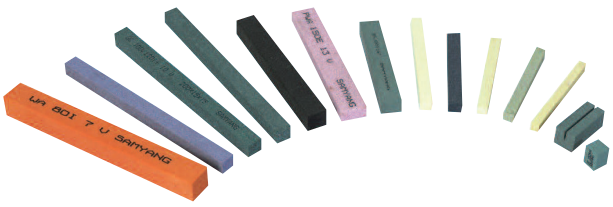
Surface Grinding by Segment Shape Honing Stones

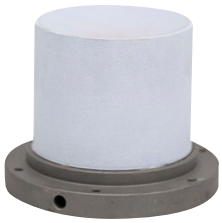
Samyang's segments provide greater porosity, free cutting, and stock removal, with better grinding results, dimensional accuracy, flatness, and surface finish.

Surface grinding segments are generally used to grind flat surfaces, and used in a variety of applications such as high volume and precision error work. It is mainly used for large molds, knives, blades, and blade grinding. Samyang's Segment Grinding Stone outperforms in porosity, grinding, and abrasion resistance, as well as in dimensional accuracy, flatness, and surface roughness formation.

- Applied self-developed vitrified bond
- It is viable to apply various characteristics of abrasives according to the type of workpiece
- Customized production is feasible according to various shapes







Porous Wheels

The range of wheels offered by Samyang for creep feed grinding applications are high porosity vitrified bonded wheels giving optimum cool and fast cutting properties for maximum productivity and quality.

Dimension Chart

OD	T	ID	Max speed
305	50	76.2	50m/s
355	50	152.4	50m/s
405	60	152.4	50m/s
450	80	250	50m/s
455	80	254	50m/s
510	100	203.2	50m/s
610	124	304.8	50m/s
660	100	304.8	50m/s
710	100	304.8	50m/s
760	150	304.8	50m/s

* Size can be customized

Grinding Conditions Checklist

Grinding Conditions Checklist

Date :

Area				Client				Grinding wheel drawing
Person in charge				Tel				
				Fax				
Wheel Spec	Abrasive (Grain)	Grit	Grade	Structure	Bond	Shape	Dimensions	
Intended use				Machine maker				
Grinding oil type			Supplier			Mixing ratio	:	

Work piece	Name			Grinding conditions	Grinding method	Cylindrical, flat, honing, form, internal, centerless, finishing, wet, dry	
	Material				Work piece RPM	r.p.m	Main speed m/s
	Heat treated (yes, no)				**Wheel RPM**	r.p.m	Main speed m/s
	Hardness	HRC:	HS:		Rough infeed		Infeed speed m/s
	Dimensions				Feed rate		
	Grinding allowance		mm, μ		Dressing method		Dressing depth
Chemical composition	C	Si	Mn	P	S	Cr	**Surface roughness**	Rt Rmax	Ra
								Rms Rg	Rz
	Mo	Ni	Cu				Straightness		Roundness

Customer product analysis	
Purpose	New / Improved
Maker of current product	
Name of product in-use	
Problem with current product	
Sample availability	Yes/ no
※ If "Yes", please attach the "Request for sample analysis"	

Customer requirements

SAMYANG ABRASIVES CO.,LTD

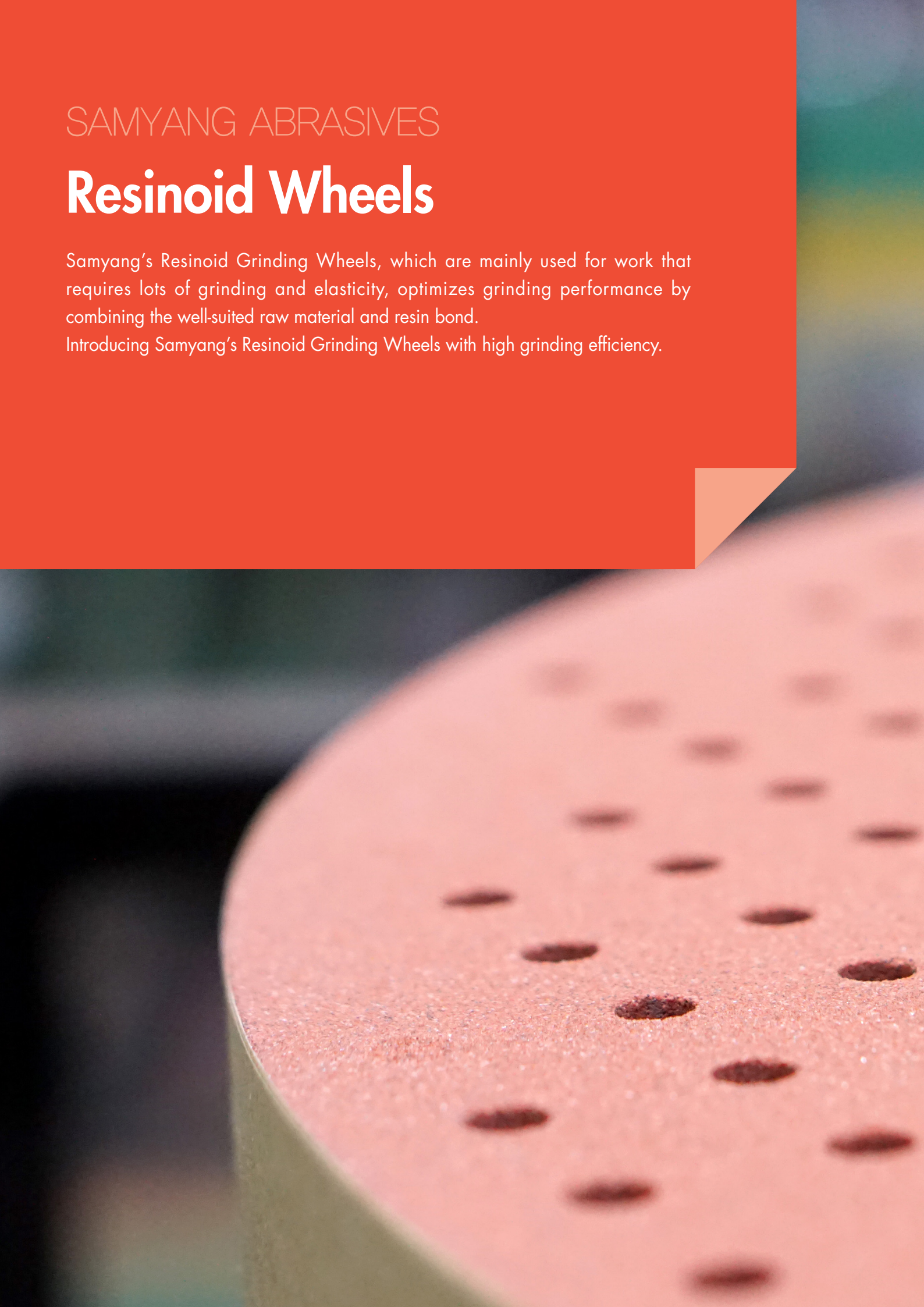
TEL. No. +82-54-335-4513~6
FAX. No. +82-54-335-4517

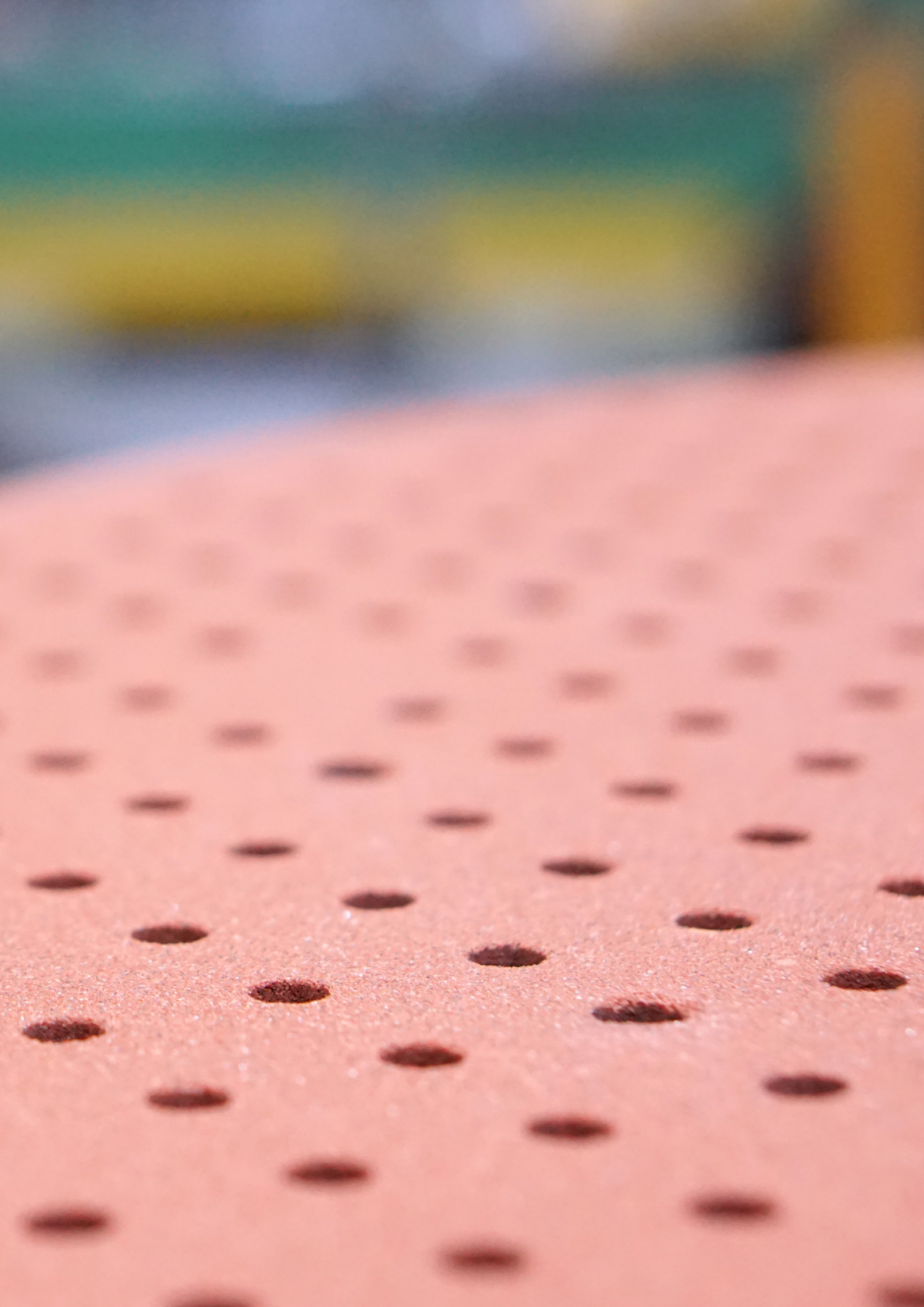
Compiled by: (seal)

SAMYANG ABRASIVES

Resinoid Wheels

Samyang's Resinoid Grinding Wheels, which are mainly used for work that requires lots of grinding and elasticity, optimizes grinding performance by combining the well-suited raw material and resin bond.
Introducing Samyang's Resinoid Grinding Wheels with high grinding efficiency.





Roll Grinding Wheels

Roll grinding wheels are not limited to cylindrical grinding, but are widely used by companies that produce steel plates for steel making or automobiles, steel plates for ships, and thin plates that require high-precision technology, to companies that produce heavy-duty pistons, aluminum, copper, paper, fiber, and vinyl. Since several rolling rolls for iron making are used as a set, the characteristics of grinding wheels are important.

The differentiation of Samyang's Roll Grinding Wheel is that the wheel design is formed in a relatively open structure, so that light grinding is achieved. Especially when grinding a long-axis roll, the grinding wheel itself absorbs some of the vibration waves due to friction. Our engineers have in-depth knowledge and experience in hot and cold rolling mills, thus providing the best solution for your specific application.

Advantages of customers in Hot Rolling Mill parts

- Resinoid bond specially developed for roll regrinding
- Reducing grinding time through high efficiency
- Wide range of solutions for all types and materials

Advantages of customers in Cold Rolling Mill parts

- Provide a range of different grain types, mesh and combinations for all types of rolls
- Provide a light grinding solution due to the nature of the wheels with an open structure

ROLL Type	ROLL Material	Grinding Type	Abrasive	Grit Size	Grade	Structure	Bond
Cold mill ROLL / ZRM	Forged Steel (3.5~5.0%Cr)	Work Roll-Rough	SA	60	I	7	B
		Work Roll-Normal	SA	80	I	8	B
		BACK-Up Roll	SA	46	J	8	B
	High -Cr (8.0~10.0%)	Work Roll-Rough	SA	46	H	7	B
		Work Roll-Normal	SA	80	I	7	B
	Semi-HSS HSS	Work Roll-Rough	SS	46	I	7	B
		Work Roll-Normal	SS	60	H	8	B
	Cold mill ROLL Cast Iron	Work Roll (High-Cr)	SS	60	H	8	B
		BACK-Up Roll	GC	46	I	7	B
Cr-plating ROLL	Hard Cr	Rough	PA	80	I	7	V
		Finishing	WA	400	H	9	B
		Cold Roll	PA	120	G	8	V
		Printer Cylinder	RA	80	I	8	V
SUS ROLL	SUS 400	Cold Mill Roll	RA	80	I	9	B
	SUS 300	Cold Mill Roll	GC	80	I	9	B
Aluminum Plate Roll (Hot Mill)	Cast Iron	Work Roll	GC	36	J	6	B
	Forged Steel	Work Roll	PA	46	I	7	B
		BACK-Up Roll	HV	36	J	7	B
Aluminum Plate Roll (Cold mill)	Steel	Work Roll- Rough	PA	46	I	12	V
		Work Roll- Normal	PA	120	H	8	V
		Work Roll-Finishing	WA	220	I	8	V
		Work Roll- Super Finishing	WA	320	I	9	V
		BACK-Up Roll	SA	36	J	8	B
Aluminum Thin Plate Roll	Bedrock	Rough	PA	280	H	8	B
		Normal	GC	500	H	8	B
		Finishing	GC	800	H	9	B
		Super Finishing	GC	1000	H	9	B
	Alum	Rough	WA	220	F	12	V
		Normal	WA	400	I	8	B
		Finishing	WA	600	H	9	B

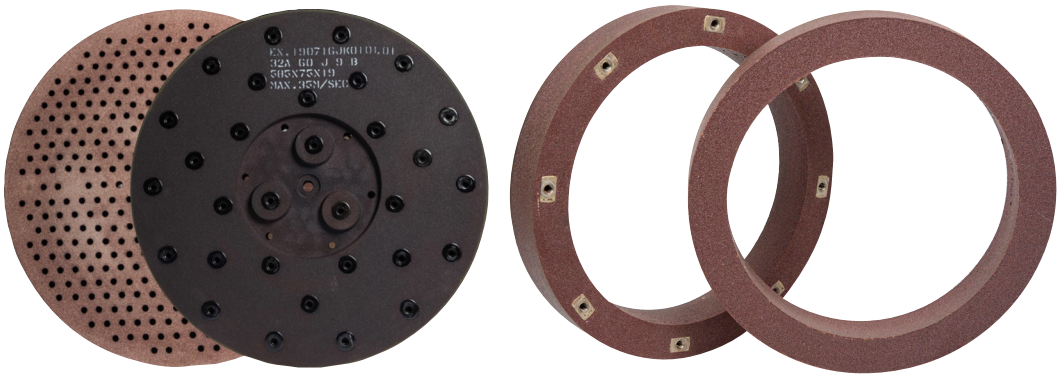
ROLL Type	ROLL Material	Grinding Type	Abrasive	Grit Size	Grade	Structure	Bond
Paper mill ROLL	Cast Iron	Calender Roll	GC	46	J	7	B
	Forged Steel	Calender Roll	SA	60	H	7	B
	Rubber	Synthetic Rubber Roll	C	46	G	12	V
	Granite	Granite Roll	C	46	J	6	B
Hot mill ROLL	Cast Iron	Stand Work Roll-Rough	SA	36	J	7	B
		Stand Backup Roll-Rough	SA	36	J	7	B
		Stand Backup Roll-Finishing	SA	46	J	7	B
		Latter Part Backup Roll	SA	36	K	6	B
		Large Work Roll	SA	46	I	7	B
	High-Cr	Stand Work Roll-Rough	HV	36	H	6	B
		Stand Work Roll-Finishing	HV	36	I	7	B
	Nickel –Grain	Stand Work Roll-Finishing	GC	36	I	7	B
		Skin Pass Work Roll	GC	60	H	7	B
		Latter Part Work Roll	GC	36	H	7	B
			GC	46	H	7	B
			SS	46	I	9	B
	HSS	Front Part Work Roll-Finishing	SS	46	I	8	B
		Latter Part Work Roll-Finishing	SS	46	J	8	B
			SS	46	K	8	B

Nut-Inserted Disc Grinding Wheels
Double-Headed Disc Grinding Wheels

It is a grinding wheel manufactured by filling a phenolic resin binder with a microporous disc. Disc grinding wheels that forcibly passes the workpiece between both disc-type grinding wheels to process both parallel surfaces in tandem.

- High accuracy and high efficiency with the use of a special resinoid binder
- Excellent performance for heat-sensitive workpieces due to low grinding load
- Well-adapted for the production of knives, saws, valves etc
- Top-notch performance for bearing and automobile parts

Common applications include brake linings, connecting rods, valves, bearing cases, springs, and automobile parts.



Dimension Chart

OD	T	ID	Max speed
585	50	76.2	50m/s
585	50	152.4	50m/s
600	60	152.4	50m/s
650	80	250	50m/s
650	80	254	50m/s
650	100	203.2	50m/s
760	124	304.8	50m/s
760	100	304.8	50m/s
760	100	304.8	50m/s
760	150	304.8	50m/s

* Size can be customized

Resin Centerless Grinding Wheels

Unlike an ordinary cylindrical grinding wheel, the mass-production effect can be achieved by rapidly and continuously grinding the workpiece without supporting its center, while the grinding wheel, regulating wheel, and workpiece jointly support each other in contact together to move the workpiece.

In general, it is well-suited for grinding a workpiece with a small diameter.

Samyang's Resinoid Centerless Wheel ensures excellent effectiveness in high grinding volume and fast grinding with excellent self-sustaining action.

Dimension Chart

OD	T	ID	Max speed
405	205	228.6	45m/s
455	205	203.2	45m/s
510	205	228.6	45m/s
600	150	304.8	45m/s
606	200	254	45m/s
610	305	304.8	45m/s
614	203.33	304.8	45m/s

* Size can be customized

Heavy-Duty Grinding Wheels

Samyang's Heavy-Duty Grinding Wheel is mainly used for rough grinding work such as removing protrusions and flaws when processing material parts such as automobile, shipbuilding, casting and forging. These products for this purpose must be strong to endure high-speed rotation and impact, so resinoid-based grinding wheels are often optimal and used.

- Used for high horsepower and high-speed work
- Long life and fast cutting operation

Dimension Chart

OD	T	ID	Max speed
405	38	50.8	63m/s
405	50	50.8	63m/s
510	38	50.8	63m/s
510	50	50.8	63m/s
610	38	50.8	63m/s
610	40	50.8	63m/s
610	50	50.8	63m/s

* Size can be customized

Depressed Center Wheels

The depressed center wheel is a grinding wheel made using synthetic resin as a binder and putting glass fiber as a reinforcing material in the middle layer of the grinding wheel.
Usually, it is used for removing the protruding part of a metal or non-metal workpiece by attaching a grinding wheel to the portable grinder and grinding the rough part of the curved surface.

SZ is a premium offset that applies a special resin binder developed by Samyang, and boasts high performance and efficiency with the use of alumina-zirconia abrasives. SZ is specialized for machining difficult-to-cut materials, providing superior performance over ordinary offsets in all types of steel.

- Provides the best polishing performance compared to normal depressed center wheels
- Sensation of grinding is soft with little vibration and separation, greatly reducing worker fatigue
- Provides high tool life by applying high-quality alumina zirconia abrasive
- There is no need for post-processing as it suppresses burning due to its outperforming autogenous effect
- High-speed polishing allows a large amount of processing in a short time
- Fulfilling the highest safety standards (KS certification)
- Well-suited for hard-to-cut materials and steel, stainless steel, cast iron, etc.

Cut-Off Wheels

Samyang's Cut-Off Wheels are grinding wheels made by applying glass fiber as a reinforcing material in the middle layer along with a resinoid binder, while also being widely used for cutting round bars, square bars, pipes, angles and section steel.

- Universal cutting wheel that provides top-notch economics and performance
- Strong cutting and smooth working power
- Provides first-rate quality using only grade A or higher raw materials

Dimension Chart

OD	T	ID	Max speed
305	50	76.2	50m/s
355	50	152.4	50m/s
405	60	152.4	50m/s
450	80	250	50m/s
455	80	254	50m/s
510	100	203.2	50m/s
610	124	304.8	50m/s
660	100	304.8	50m/s
710	100	304.8	50m/s
760	150	304.8	50m/s

* Size can be customized

SAMYANG ABRASIVES

CBN & DIA

Diamond and cubic boron nitride(CBN) are the hardest abrasive materials in existence, and are known as the best abrasive. Although a diamond and CBN have the same crystal structure, a diamond is made of pure carbon while CBN is made of cubic boron and nitride. Samyang's CBN/DIA wheel, is introduced along with the crystallization of abrasive technology optimized for high-hardness workpieces.


SAMYANG
ABRASIVES

Vitrified CBN/DIA Wheels

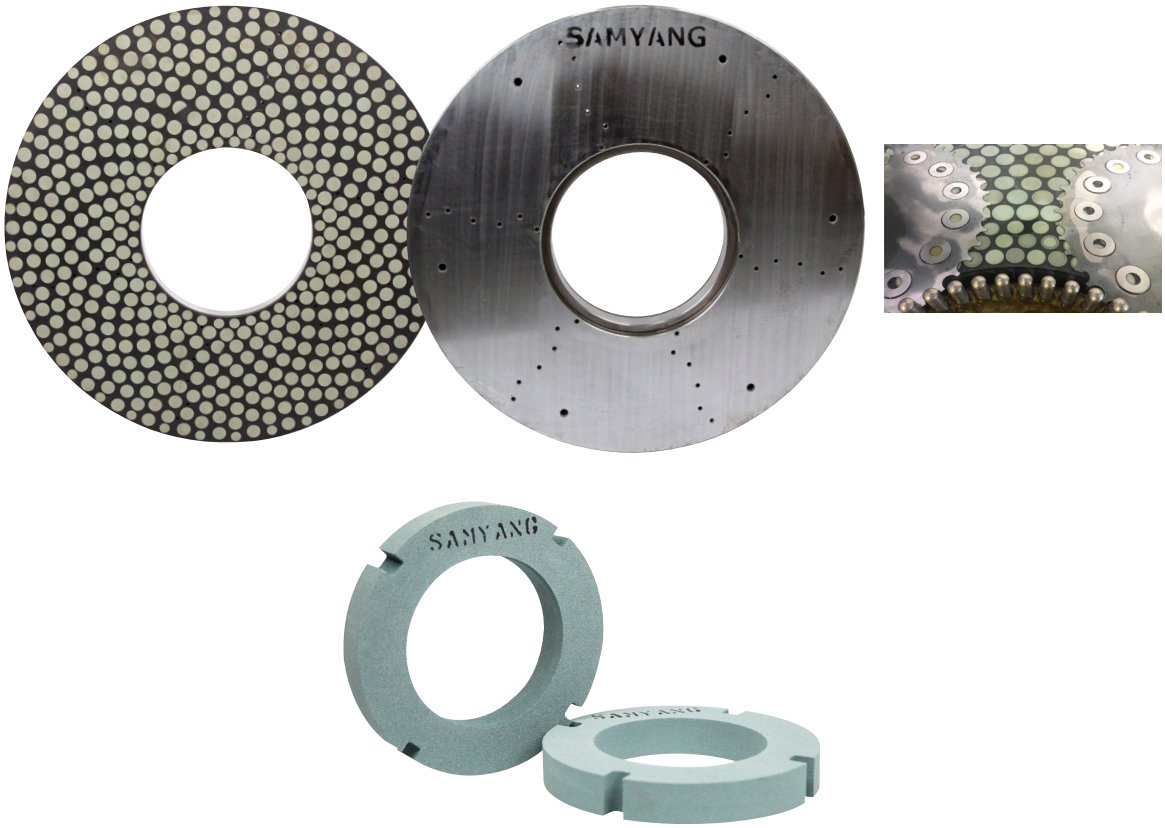
Vitrified bonds are made of inorganic materials as binders, and since they can make products with a high porosity, there is little clogging and heat generation during grinding, and it is relatively easy to run through and dressing. It is mainly used as a bond. In the case of ceramic and PCD grinding, it has high grinding efficiency when a vitrified diamond wheel is applied.

▸ Automatic dressing using various dryers such as the rotary dresser or single-point dresser is easy to operate, so it is mainly used in the work of the CNC automation process, and in machining workpieces for the production of large-scale quantities of small types such as bearings and automobile parts.
In addition, since it contains a large number of pores versus general resin or metal wheels, it is feasible to easily process difficult-to-cut materials with severe clogging during processing such as ceramic, PCD, and PCBN.

Vitrified Double Disk Wheels

Samyang's Vitrified Diamond, CBN are used depending on the type of workpiece, and is a product used for processing a wide range of workpiece materials such as automobile, ceramic, hydraulic, air conditioner parts, and seals. It is widely used for processing all materials such as ferrous and nonferrous metals.

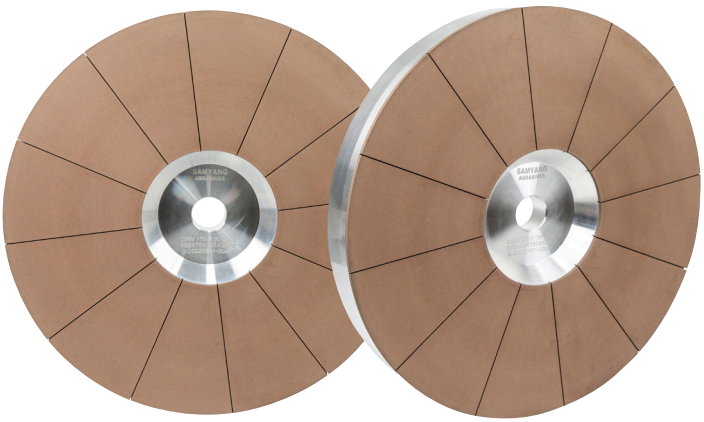
- Vitrified table provides many opportunities for users due to its high grinding efficiency and long service life.
- Compared to general grinding, a large number of workpieces are processed in tandem, so the actual individual work time is short.
- Due to the characteristics of double-sided polishing, the product quality and precision are exceptional.
- Despite the higher initial investment cost, the actual individual tool cost is low due to the short working hours and high productivity.
- Compared to general grinding, scattering dust is extremely minimal, so the work environment is kept clean and waste disposal costs are greatly reduced.
- Since the work environment is kept clean, no additional investment in environmental management facilities is warranted.



Resinoid CBN/ DIA Wheels

"Resin" refers to resin and synthetic resin, and the resin bond wheel is a resin that combines various fillers (i.e. metal components, ceramic components, etc.) with resin as the main component. Resins comprise mainly phenolic resins and polyimide resins. Due to the bonding properties of abrasive grains, the Resin Bond Wheel has well-performing elasticity, soft contact point with the workpiece, and good cutting and finishing surfaces, but it has less wear and heat resistance.

- Among diamond and CBN grinding wheels (i.e. resin, metal, vitrified, electrodeposition), it is the most common and easy to apply to all grinding operations (i.e. planar, cylindrical, groove, centerless, double head, inner grinding, etc.) It is most widely used when grinding many types of workpieces such as glass, cermet, ceramic, tool steel etc. In particular, Samyang's resin hybrid wheel has an excellent effect on flute grinding for tools.
- If the hardness of the workpiece is HRC 50 or higher, grinding with a CBN wheel is economical.



Electroplated DIA/ CBN Wheels

The Electrodeposition Wheel features only one layer of DIA or CBN abrasive that is fixed to the surface of the wheel body by electroplating. It is possible to freely implement the size and shape of the wheel, so it enables a specific shape and even soft materials to be easy processed.

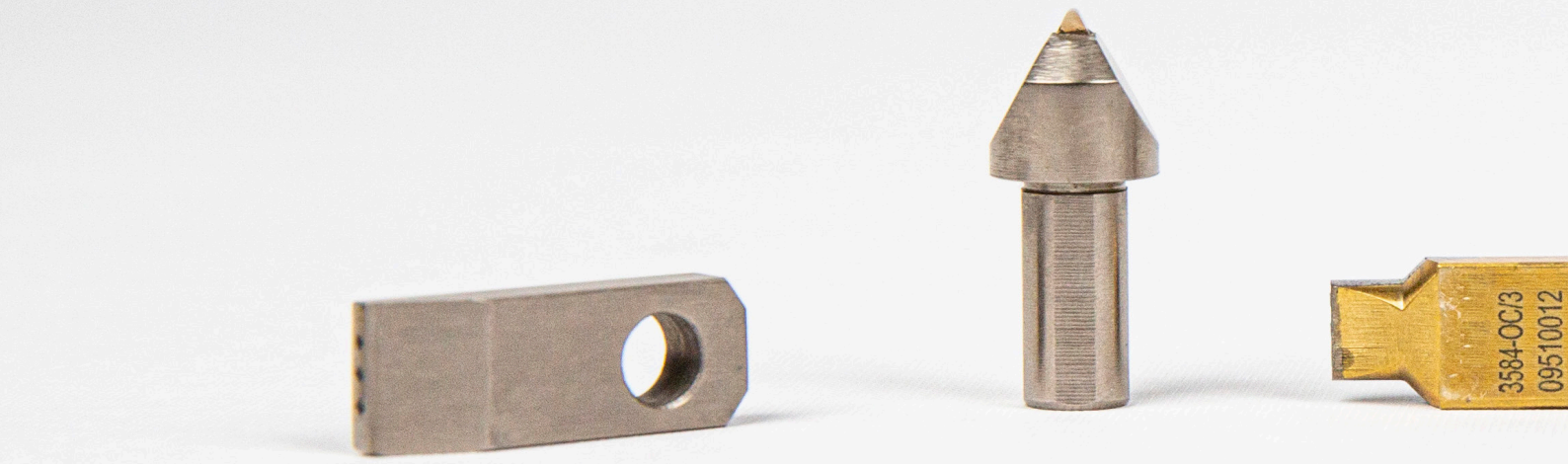
- In the case of gun-shape grinding, a shot-shape wheel is obtained simply by forming a predetermined gun shape on the wheel shank and plating DIA or CBN abrasive grain on the surface to be fixed to.
  Since only one layer of DIA or CBN abrasive is plated, the initial cost of the wheel is lower. When this single layer of abrasive grain is gone, this wheel will reach its expiry of use. By reusing the shank of this wheel, the wheel cost (unit cost) can be reduced. The electrodeposition wheel outperforms versus other bonds since one-third to one-half of the grain size protrudes from electrodeposition.

- The fields where electrodeposition wheels are mainly used are as follows:
  - Form grinding
  - Jig grinding
  - Small quantity production of various kinds
  - Inner grinding of small diameter.

SAMYANG ABRASIVES

Diamond Tools

Samyang's Diamond Tools are introduced for use in line with dressing and truing purposes. The array of single point diamond dressers, blade type diamond dressers and multi dressers are available with a variety of tools fully geared to exposing new grinding grains in abrasive wheels and creating sharp cutting edges. The array of high-quality dressers well-suited for high-speed, continuous dressing are introduced.



Single-Point Diamond Dressers

Samyang provides high-quality single-point diamond dressers, which are the most basic dressing tools used to expose new abrasive grains in the abrasive wheel and create new cutting edges. It is necessary to select high-quality diamonds with the right dimensions since the tool life is the most important factor. With a range of specifications and quality products provided to meet the needs of customers, please refer to the table below to correctly order a special type of dresser.

Grinding Wheel Dimension in mm		Recommended Dimend Size
Diameter	**Width**	**In Carat**
100	12	0.25
150	12	0.30
175	12	0.50
250	40	0.75
350	25	1.00
350	30	1.25
350	50	1.50
450	50	1.75
600	50	2.00
600	75	2.50
600	150	3.00
750	75	3.00
750	100	3.50
900	75	4.00

Chisel-Type Diamond Dressers

Samyang's Foaming Dresser is manufactured by skilled professionals using high-quality natural diamonds and other materials. It is a dresser well-suited for grinding stone forming, and can be customized according to the R(circle) and suitable angle at the customer's request.

Radius in MM	Angle	Tool Code
0.125R		DC1 - A40L
0.250R	40Ã, ○	DC2 - A40L
0.500R		DC5 - A40L
0.125R		DC1 - A60L
0.250R	60Ã, ○	DC2 - A60L
0.500R		DC5 - A60L

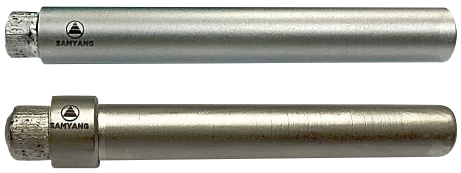
Multi-Set Diamond Dressers

Samyang's Diamond Grit-Impregnated Dressers have been developed from multipoint dressers. In contrast to the item below, they are manufactured from crushed diamond grit rather than numerous small natural diamonds, and containd a large number of diamond particles. The advantage of the Diamond-Impregnated Dresser lies in its exceptional sharpness which is derived from the sharp edges and points of the broken diamond grit.

Multipoint Diamond Dresser

The diamonds can be used completely without resetting them, and due to there being several diamond points, the pressure of dressing is reduced when using this tool.
These come in many sizes and specifications to fulfill the various needs of different customers. The featured dressers are bonded with multiple diamonds, which are arranged in different patterns for various cutting and grinding operations. These dressers are manufactured in compliance with the industry-wide parameters and the demands of customers. Moreover, our wide distribution of transportation facilities has enabled us to deliver our Multipoint Diamond Dressers within a specific timeframe.

Sizes
- MIC-24 with 24 diamonds for a wheel size up to 600 mm in diameter
- MIC-36 with 36 diamonds for a wheel size above 600 mm in diameter



Blade Diamond Dresser

Grit-Type Blade Diamond Dresser

Grit-Type

With this blade dresser, blocky diamond grains are set according to an optimal pattern. This blade is made for an exceptionally long service life and used for precision dressing applications.

Needle-Type Blade Diamond Dresser

Needle-Type

With this blade diamond dresser, needle-shaped diamonds are carefully selected and set manually in an optimal pattern in several layers. The uniform thickness of the diamond needles and setting pattern maintain a constant effective width of the blade over the whole tool life to get a constant high-level surface finish.

MCD Dressing Blades

For a longer life, consistant dressing with a high level of surface finish.

MCD dressing blades (Mono Crystalline Diamond) :
Samyang offers MCD blades which are fully synthetic products. These MCD inserts are arranged in a very systematic pattern in parallel or at 45° into the blade dressing blank. The thermal conductivity of MCD outperforms that of natural diamonds. This allows heat to be drawn away from the contact zone between the dressing tool and grinding wheel, thus contributing highly to consistent performance of dressing tools.

Blade-Type Dresser with MCD and CVD Diamonds

As MCD and CVD diamonds are artificial diamonds, Samyang produces these items to customer specifications.

Advantage of the Blade Dressers

- No resetting or re-lapping required.
- Reduce inventory, cost cutting up to 40~50%
- These tools can be used completely without requiring constant maintenance.

SAMYANG ABRASIVES

Other Types of Grinding Wheels

Samyang Abrasives provides customized wheel from Beans Millstones for food processing to industrial Centerless Regulating Wheels. Our sales office will guide you through our range of products.

Beans Millstones

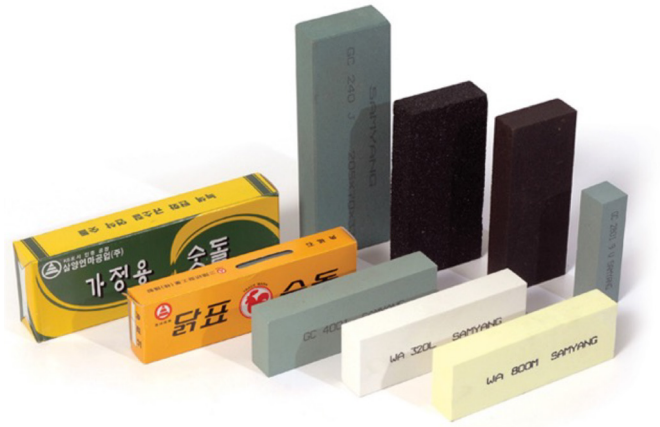
It is a grindstone designed to be processed in the same way as a native millstone for food processing such as beans and grains, and is mainly used for processing or grinding the husks of grains.

- Provides high-efficiency grinding work through the unique shape of the grinding stone
- Minimizes the input of foreign substances through pore control
- Harmless to the human body with the use of a vitrified binder
- Various size products can be manufactured

Mounted Wheels

Regulating Wheels

Sharpening Stones



Grain Processing Wheels

Flap Discs/ Mop Discs

Flap discs are made of a plastic or fiberglass backing plate and a sheet of polishing cloth. Geared for angle grinder use, it is used for rust and paint removal, deburring, and polishing of metal/ non-metal materials used in shipbuilding, automobiles, aerospace, and machinery industries.

- Long life and strong grinding power
- Used for various purposes with various materials such as steel, non-ferrous metals, and stainless steel
- Perfect high-speed grinding and high-load bearing grinding

Different Typed Carved Stone

Reaching out to global partners

SAMYANG ABRASIVES

Wheel Speed Chart [RPM]

※ R.P.M dependent on the external diameter of the grinding wheel and the Max. operating speed.

Wheel O.D (mm)	Max. Operating Speed in m/min																	Wheel O.D (inch)
	1400	1500	1600	1700	1800	2000	2100	2300	2400	2600	2700	3000	3400	3600	3800	4300	4800	
25	17,825	19,099	20,372	21,645	22,918	25,465	26,738	29,284	30,558	33,104	34,377	38,197	43,290	45,837	48,383	54,749	61,115	1 inch
50	8,913	9,549	10,186	10,823	11,459	12,732	13,369	14,642	15,279	16,552	17,189	19,099	21,645	22,918	24,191	27,375	30,558	2 inch
75	5,942	6,366	6,791	7,215	7,639	8,488	8,913	9,761	10,186	11,035	11,459	12,732	14,430	15,279	16,128	18,250	20,372	3 inch
100	4,456	4,775	5,093	5,411	5,730	6,366	6,684	7,321	7,639	8,276	8,594	9,549	10,823	11,459	12,096	13,687	15,279	4 inch
125	3,565	3,820	4,074	4,329	4,584	5,093	5,348	5,857	6,112	6,621	6,875	7,639	8,658	9,167	9,677	10,950	12,223	5 inch
150	2,971	3,183	3,395	3,608	3,820	4,244	4,456	4,881	5,093	5,517	5,730	6,366	7,215	7,639	8,064	9,125	10,186	6 inch
180	2,476	2,653	2,829	3,006	3,183	3,537	3,714	4,067	4,244	4,598	4,775	5,305	6,013	6,366	6,720	7,604	8,488	7 inch
205	2,174	2,329	2,484	2,640	2,795	3,105	3,261	3,571	3,727	4,037	4,192	4,658	5,279	5,590	5,900	6,677	7,453	8 inch
255	1,748	1,872	1,997	2,122	2,247	2,497	2,621	2,871	2,996	3,246	3,370	3,745	4,244	4,494	4,743	5,368	5,992	10 inch
305	1,461	1,565	1,670	1,774	1,879	2,087	2,192	2,400	2,505	2,713	2,818	3,131	3,548	3,757	3,966	4,488	5,009	12 inch
355	1,255	1,345	1,435	1,524	1,614	1,793	1,883	2,062	2,152	2,331	2,421	2,690	3,049	3,228	3,407	3,856	4,304	14 inch
405	1,100	1,179	1,258	1,336	1,415	1,572	1,650	1,808	1,886	2,043	2,122	2,358	2,672	2,829	2,987	3,380	3,773	16 inch
455	979	1,049	1,119	1,189	1,259	1,399	1,469	1,609	1,679	1,819	1,889	2,099	2,379	2,518	2,658	3,008	3,358	18 inch
510	874	936	999	1,061	1,123	1,248	1,311	1,436	1,498	1,623	1,685	1,872	2,122	2,247	2,372	2,684	2,996	20 inch
560	796	853	909	966	1,023	1,137	1,194	1,307	1,364	1,478	1,535	1,705	1,933	2,046	2,160	2,444	2,728	22 inch
610	731	783	835	887	939	1,044	1,096	1,200	1,252	1,357	1,409	1,565	1,774	1,879	1,983	2,244	2,505	24 inch
650	686	735	784	833	881	979	1,028	1,126	1,175	1,273	1,322	1,469	1,665	1,763	1,861	2,106	2,351	26 inch
710	628	672	717	762	807	897	941	1,031	1,076	1,166	1,210	1,345	1,524	1,614	1,704	1,928	2,152	28 inch
760	586	628	670	712	754	838	880	963	1,005	1,089	1,131	1,256	1,424	1,508	1,592	1,801	2,010	30 inch
810	550	589	629	668	707	786	825	904	943	1,022	1,061	1,179	1,336	1,415	1,493	1,690	1,886	32 inch
860	518	555	592	629	666	740	777	851	888	962	999	1,110	1,258	1,332	1,406	1,592	1,777	34 inch
910	490	525	560	595	630	700	735	805	839	909	944	1,049	1,189	1,259	1,329	1,504	1,679	36 inch
965	462	495	528	561	594	660	693	759	792	858	891	990	1,122	1,187	1,253	1,418	1,583	38 inch
1015	439	470	502	533	564	627	659	721	753	815	847	941	1,066	1,129	1,192	1,349	1,505	40 inch
1065	418	448	478	508	538	598	628	687	717	777	807	897	1,016	1,076	1,136	1,285	1,435	42 inch

※ **Calculate and apply the formula as shown below.**

R.P.M = WHEEL MAXIMUM SPEED(m/min) ÷ [WHEEL DIAMETER(m) X 3.14]

WHEEL MAXIMUM SPEED(m/min) = R.P.M X [WHEEL DIAMETER(m) X 3.14]

$$\text{S.F.P.M} = \frac{3.1416 \text{ X WHEEL DIAMETERS(INCH) X R.P.M}}{12}$$

Do's and Don'ts for safe grinding operations

Do's

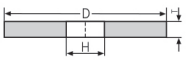
1. Give a visual inspection and rubber hammering test to check for wheel cracks, chips, and other flaws before mounting the wheel to the machine
2. Check the maximum operating speed established for the wheel against the machine speed
3. Use the blotters supplied with the wheel surface
4. Check the balance of wheel with balancing weight
5. Be sure that work rest is properly adjusted. Wheel cover at least half of the grinding wheel
6. Allow wheel to run for at least 1 minute before the first grinding of the day and at least 3 minutes before using a newly mounted wheel

Don'ts

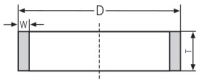
1. Don't use a grinding wheel that has been dropped or found to have any abnormality thru an inspection
2. Don't force the wheel onto the machine or alter the size of the mounting hole
3. Don't ever exceed the maximum operating speed established for the wheel
4. Don't use mounting flanges on which the surfaces are dirty, rusted, deformed and flat
5. Don't tighten the mounting nut excessively
6. Don't grind on the side of the wheel unless the wheel is specifically designed for that purpose
7. Don't start the machine until the wheel guard is in place
8. Don't jam the work into the wheel
9. Don't touch the rotating wheel directly
10. Don't stand directly in front of a grinding wheel whenever a grinder is started
11. Don't put a portable grinder on a board, floor, or work before the grinder rotation comes to a full stop
12. Don't stand too close to the spark
13. Don't replace wheels or perform test runs without receiving proper safety training

Standard Wheel Shapes

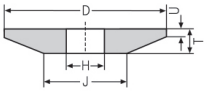
Type 1 - Flat type



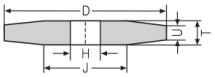
Type 2 - Ring type



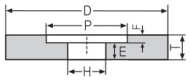
Type 3 - One-side taper type



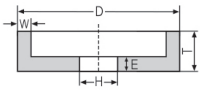
Type 4 - Both-side taper type



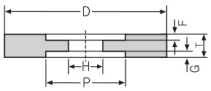
Type 5 - One-side concave type



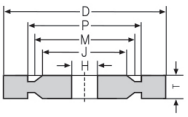
Type 6 - Straight cup type



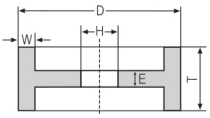
Type 7 - Both-side concave type



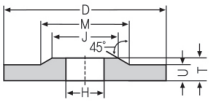
Type 8 - Safety type



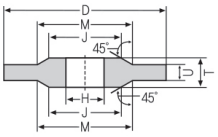
Type 9 - Dual cup type



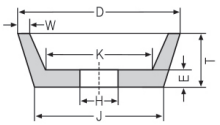
Type 10 - One-side dovetail type



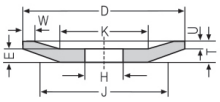
Type 10 - Both-side dovetail type



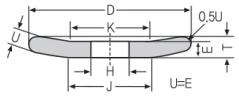
Type 11 - Tapered cup type



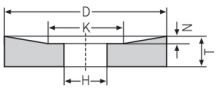
Type 12 - Dish type



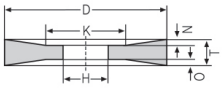
Type 13 - Dish type for sawing



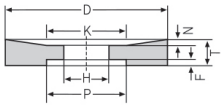
Type 20 - One-side relief type



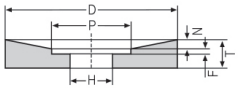
Type 21 - Both-side relief type



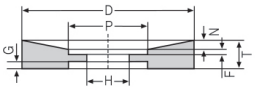
Type 22 - Single-side relief, the other-side concave type



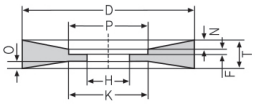
Type 23 - Single-side concaved relief type



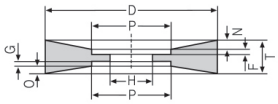
Type 24 - Single-side relief, both-side concave type



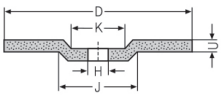
Type 25 - Both-side relief, Single-side concave type



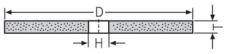
Type 26 - Both-side relief, both-side concave type



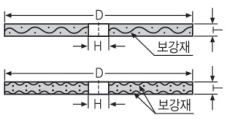
Type 27 - Offset grinding wheel



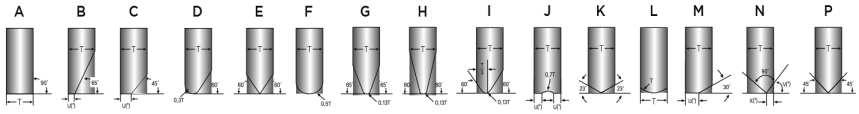
Type 41 - Flat cut (unreinforced)



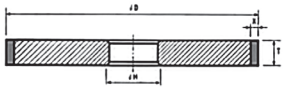
Type 41 - Flat cut (reinforced)



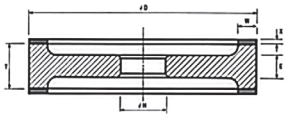
Standard Wheel faces



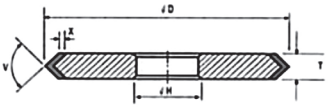
1A1 Straight



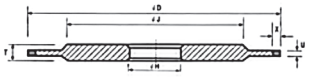
9A3 Double Cup



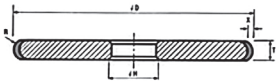
1EE1 V-Face



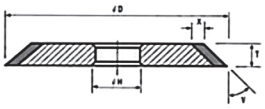
14A1 Straight Raised Hub on Both Side



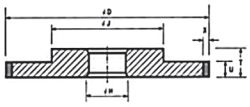
1FF1 Straight with R



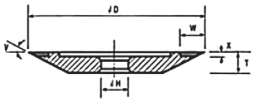
1V1 Angle Straight



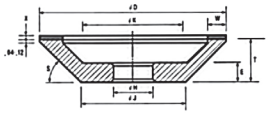
3A1 Straight Raised Hub on One Side



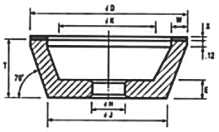
4B2 One-Side V-Face



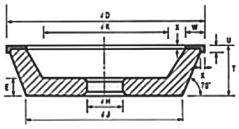
12A2 Dish



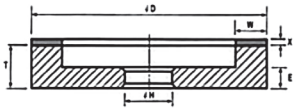
11A2 Flare Cup



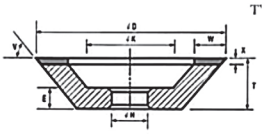
11C9 L Flare Cup



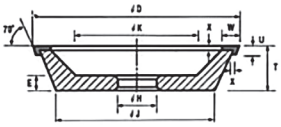
6A2 Plain Cup



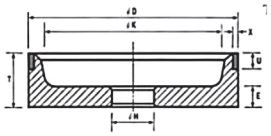
11B2 Angle Flare Cup



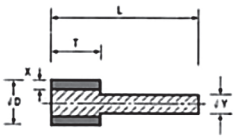
11Y9 Angle L flare Cup



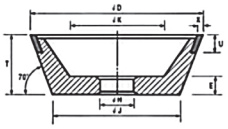
6A9 Commer Cup



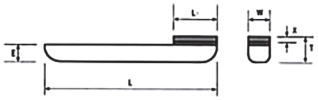
I.D.Wheel



11V9 Angle Commer Cup



HH1 Hand Stone



Sales office information

Gyeongnam Sales Office	9 (Pallyong-dong) on 150th Street, Chasang-ro, Uichang-gu, Changwon, Gyeongsangnam-do, Korea T. 055-277-1767 / F. 055-277-1768	
Ulsan Sales Office	36-1, Myeongchon 11-gil, Buk-gu, Ulsan, Korea T. 052-297-8134 / F. 052-293-1284	
Samil Sales Office	E-Mart D-dong 103 in Gamjeon-dong, Sasang-gu, Busan, Korea T. 051-310-0270 / F. 051-310-0721	
Samyoung Sales Office	(Electric Power-dong Industrial Goods Trading Center 3-dong 135) 131 Sebyeok-ro, Sasang-gu, Busan, Korea T. 010-9471-3032 / F. 051-316-3032	
Samah Sales Office	(Gamjeon-dong, Mart World 2nd floor) 910 Nakdong-daero, Sasang-gu, Busan and 205 C-dong, Korea T. 051-310-0095 / F. 051-310-0094	
West Busan Sales Office	(SongJeong-dong, TOOLMART) 38-9, Noksansandan 232-ro, Gangseo-gu, Busan, Korea T. 051-831-4888 / F. 051-831-4883	
Busan Jungang-dong Sales Office	(Mart World Shopping Center D-102) 910 Nakdong-daero, Sasang-gu, Busan, Korea T. 051-310-1727 / F. 051-310-1728	
Busan Sales Office	Haedong Building No. 103, Gwaegam-ro 54, Sasang-gu, Busan, Korea T. 051-326-3032~3 / F. 051-326-3034	
Gwangju Sales Office	534-18 Yonga-ro, Gwangsan-gu, Gwangju, Korea T. 062-951-0678 / F. 062-951-5322	
Daejeon Sales Office	518, Daejeoncheondong-ro, Dong-gu, Daejeon, Korea T. 042-256-3903 / F. 042-255-1281	
Yeongnam Sales Office	1) 11 B-dong 110 Yasa 3-gil, Yeongcheon-si, Gyeongsangbuk-do, Korea T. 054-335-3130 / F. 054-337-3130	2) 153-2, Daehae-ro, Nam-gu, Pohang-si, Gyeongsangbuk-do, Korea T. 054-272-3850 / F. 054-274-6798
Dasan Sales Office	(659-6 Songgok-ri) 640 Seongam-ro, Dasan-myeon, Goryeong-gun, Gyeongsangbuk-do, Korea T. 053-639-5310, 070-4221-0480 / F. 053-634-5310	
Gyeongbuk Sales Office	79 Bisan-ro, Gumi-si, Gyeongsangbuk-do, Korea T. 054-465-3009 / F. 054-465-9317	
West Daegu Sales Office	(Seongseo Complex No. 75) 14-7 Seongseo Industrial Complex 39-gil, Dalseo-gu, Daegu, Korea T. 053-582-2988 / F. 053-582-2987	
North Daegu Sales Office	Distribution Complex 16 (14-33), Buk-gu, Dauge, Korea T. 053-604-2969 / F. 053-604-2971	
Daegu Sales Office	(Bukseongno 1-ga) Bukseong-ro 90-1, Jung-gu, Daegu, Korea T. 053-254-7300 / F. 053-255-3152	
Jeonbuk Sales Office	620-1 Pyeongdong-ro Iksan-si, Jeollabuk-do, Korea T. 063-858-4845 / F. 063-858-4835	
Yutong Sales Office	(28dong-119ho) 23, Bangchuk-ro 83beon-gil, Dong-gu, Incheon, Korea T. 032-589-2260 / F. 032-589-2263	
Songlim Sales Office	(B-162)98, Bongsu-daero, Dong-gu, Incheon, Korea T. 032-583-2392 / F. 032-583-2393	
Seoul Direct Sales Office	(Doksan-dong) 31, Doosan-ro 5-gil, Geumcheon-gu, Seoul, Korea T. 02-851-1794, 02-852-8382 / F. 02-851-8291	
Gyeongin Sales Office	(Building 112 ho) 322, Namdong-daero, Namdong-gu, Incheon, Korea T. 032-446-0104 / F. 032-446-0132	