



# SHINHAN DIAMOND COMPANY PROFILE

Ver.2.0

Our future aim is to contribute to advanced civilization and social development by providing futuristic products and services based on upgraded manpower and high-technology.

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- PRECISION
- SEMICONDUCTOR

"Over the passed decades, we, Shinhan, has contributed to the development of diamond tool industries and tried our utmost to provide the best service to the customers through a value creation management."

# COMPANY INTRO

## "We, Shinhan Diamond Industrial Company, Ltd., strive to become Global No. 1."

Shinhan Diamond Industrial Co., Ltd. has produced a variety of diamond tools from products for construction and stone to those for precision industries and high-tech materials such as silicon wafers for semiconductor and the flat panel display including LCD (Liquid Crystal Display) and OLED (Organic Light Emitting Diodes) since its establishment in 1978. These diamond tools are used when having your house or office built or repaired or renovated, and even when highways, roads, and bridges that you drive on are constructed. In all kinds of TVs in your home, and in your computers and monitors are some parts made by those diamond tools.



Our products are widely used in the country's main industries such as automobile, glass, LED, and semiconductor as well as the construction area. Believing diamond tools greatly contribute to advanced civilization, we strive to provide futuristic products and services for advanced civilization and social development by continuously upgrading our manpower and developing new high-technology.

## "In order to grow into "Global No.1."

We, with our heart full of dream toward bright future and unlimited trust on each of us, do our best to meet rapidly-changing needs and conditions of the markets with speedy and creative solutions. As a result, Shinhan Diamond Industrial Co., Ltd. has become a leader in Korean domestic diamond tool industry, increasing steadily every year. Not only are we continuously developing new high-technology and upgrading our manpower, but expanding its business and operation into the global market. Being cautious of complacency about what we have achieved, we will continue to develop ourselves with responsibility and entrepreneurship and grow to dignified Global No.1 fitting into the digital era.

Chairman  
Shin Kyung Kim

A handwritten signature in black ink, appearing to read 'Shin Kyung Kim' in a stylized, cursive script.

# COMPANY PROFILE

Shinhan Diamond Ind. Co., Ltd. ([www.shinhandia.co.kr](http://www.shinhandia.co.kr))

Founder & Chairman : Mr. Shinkyung Kim

President & CEO : Mr. Brian Song

Location : Incheon Korea (HQ)

Products : Diamond tools for Semiconductor/ Engineering/ Construction

Sales Revenue : US\$194 million (2013)

Employee : 1,000 employees as of Jun. 2013

(Including Subsidiaries)

## DOMESTIC & OVERSEAS BRANCH



HQ & Factory	36B-10L, Namdong Industrial Complex, 610-9, Namchon-dong, Namdong-gu, Incheon, 405-100, South Korea
R&BD Center	7-5, Songdo-dong, Yeonsu-gu, Songdo International City, Incheon, 406-840, South Korea
USA	SHINHAN DIAMOND AMERICA, INC. 900 S.Ajax Ave. City of Industry, CA 91748 U.S.A DITEQ Corporation, 9876 Pflumm Rd, Lenexa, KS 66215, U.S.A
China	No.45 Dongjin Road, Qindao Free Trade Zone Shandong Province, China 305, 3F DIBAO PLAZA, 3998 HONGXIN ROAD, SHANGHAI, CHINA, 201103
Europe	DIAXIS S.A.S, ZI de la Bonde 15, rue du Buisson aux Fraises 91300 Massy, France
Germany	Mergenthaleralle 79-81, 65760, Eschborn, Germany

# COMPANY INTRO

## For the World Best Company, Global No.1 in the Rapidly Changing Environment Domestically and Internationally

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**Vision** For the World Best Company, Global No.1

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**Mission** We contribute to advanced civilization and social development by providing futuristic products and services based on upgraded manpower and high technology

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**Philosophy** Let's be dreamers with unity and creativity

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### Management principle

Entrepreneurship

Transparency

Differentiation

---

### Right people

Think Big

Think Broad

Think Tomorrow

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### Slogan

Differently

Profitably

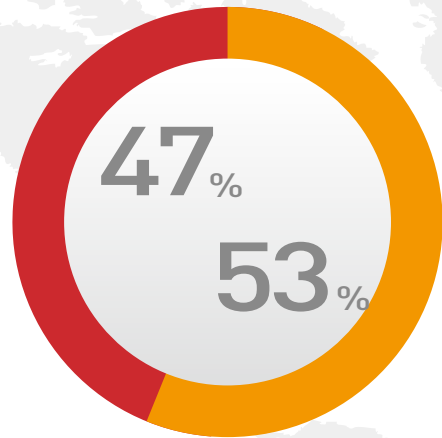
Fun

# COMPANY HISTORY

- 2013 Global Professional Company selected by ministry of commerce, Korea
- 2012 Environmentally Freindly Company nominated by Incheon City
- 2011 Nominated for KOTRA WORLD CHAMP Certificated for Best HRD
- 2010 Nominated "Hidden Champion" by The Export-Import Bank of Korea Assured Brand certied by KOTRA
- 2009 Prime Minister's Prize for Mechanical Engineering Granted at the 37th Korea Precision Industry Technology Awards
- 2007 R&BD Center opened at Songdo, Incheon
- 2006 Selected as a venture business in new technology field  
Selected as a core-enviroment technology developer of new generation  
Established a branch office in France
- 2005 The 8th Grand prize for the Innovation of Industrial Technology awarded ( Ministry of Industry and Energy)  
Gained Quality Certificate I.S.O 14001:2004 and 9001:2000 from TUV Rheinland in Germany
- 2004 Designated as "Advanced Technology Center"  
First developed ARIX mass-produce technique
- 2003 Qualified for oSa (Organization for the Safety of Abrasives)  
European Safety Standard Certificate Gained a Certificate of Good Design
- 2002 Established a branch office in China  
Increased capital up to 5.3 million dollars
- 2001 World guaranteed quality selected by ministry of commerce, industry and energy  
Acquired a certificate of I.S.O 17025(KOLAS)\_ for temperature calibration
- 2000 Established branch offices in Germany
- 1978 Established under the name of Shinhan diamond ind. Co., Ltd.

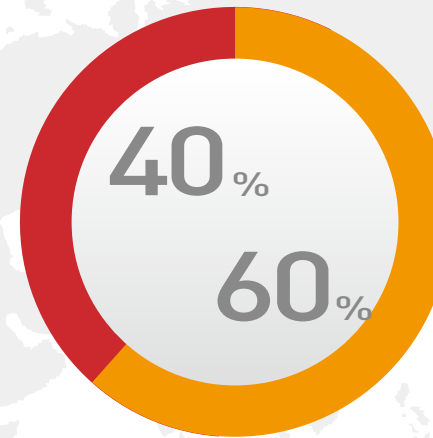
# BUSINESS PROFILE (Yr. 2013)

## Construction (Stone) & Precision



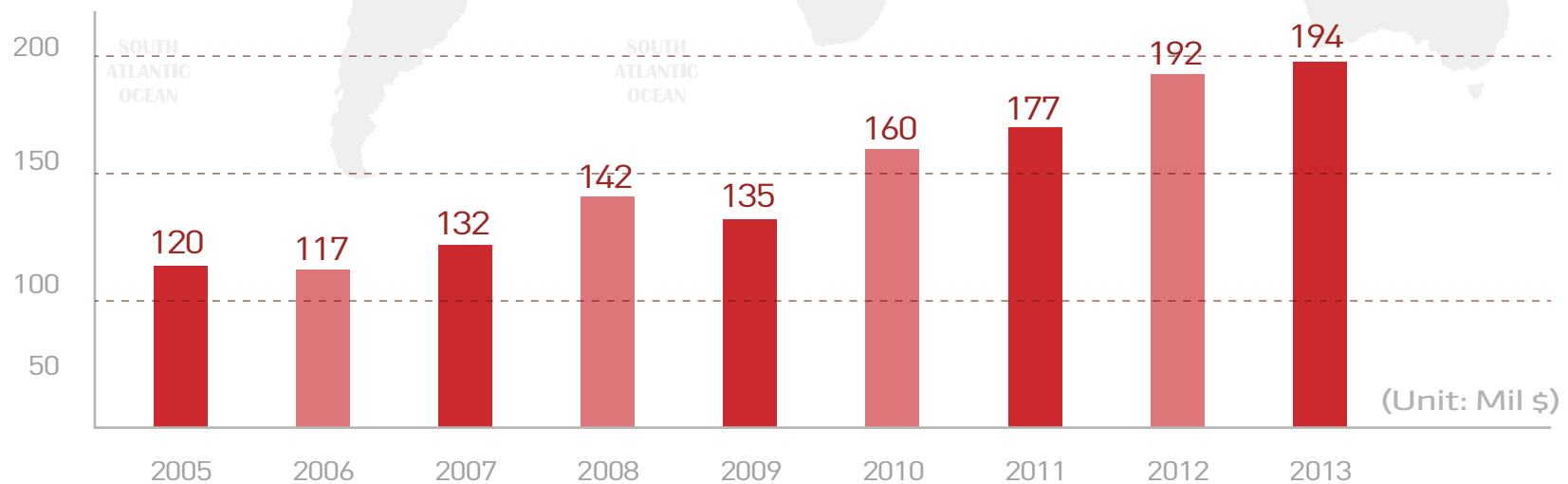
Construction  
Precision

## Export & Domestic



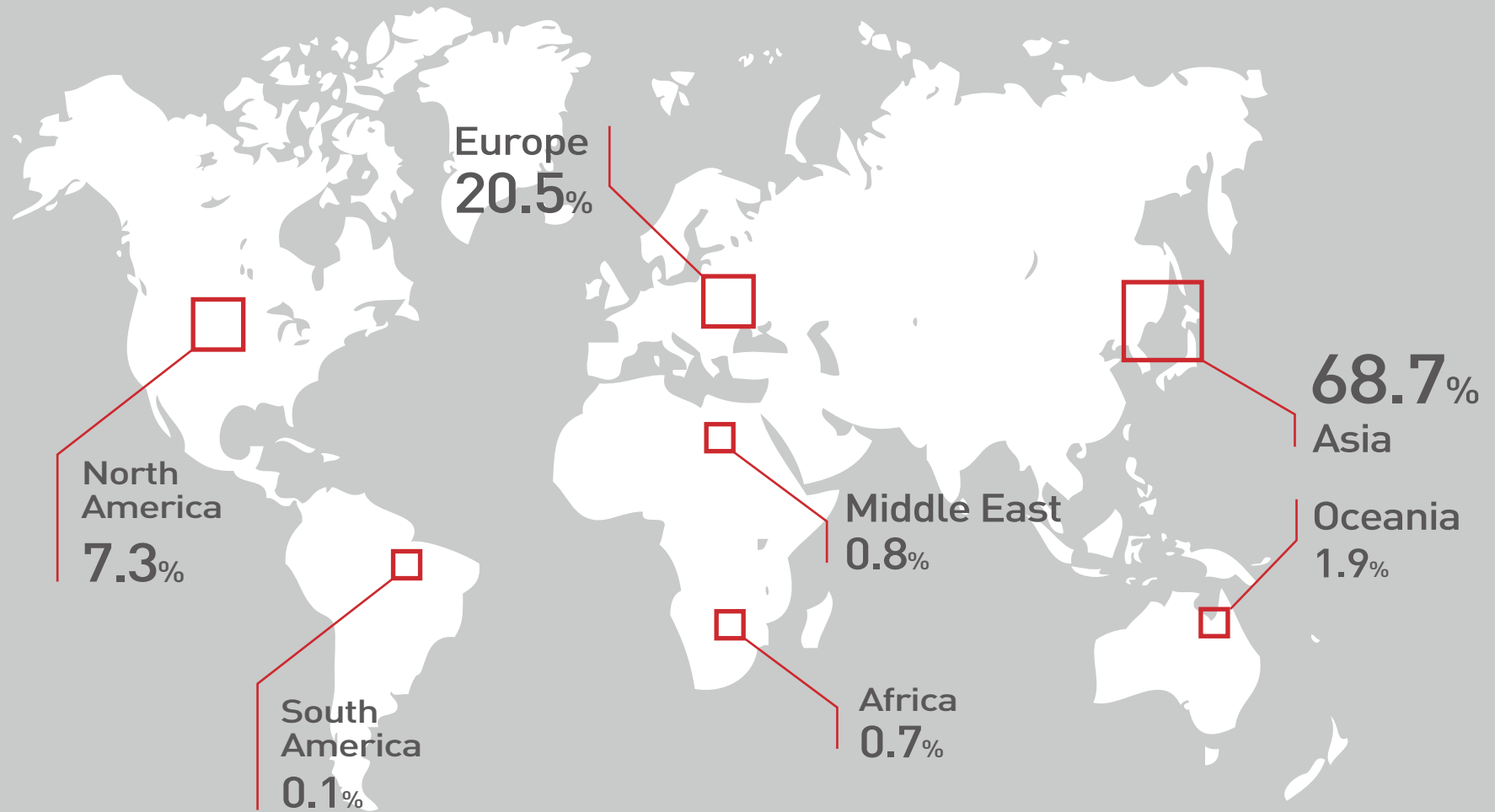
Export  
Domestic

## Sales Turnover



# BUSINESS PROFILE

## ▄ Sales portion by region



\* Average for 2005 ~ 2013



# QUALITY & PATENTS

## • Quality Policy



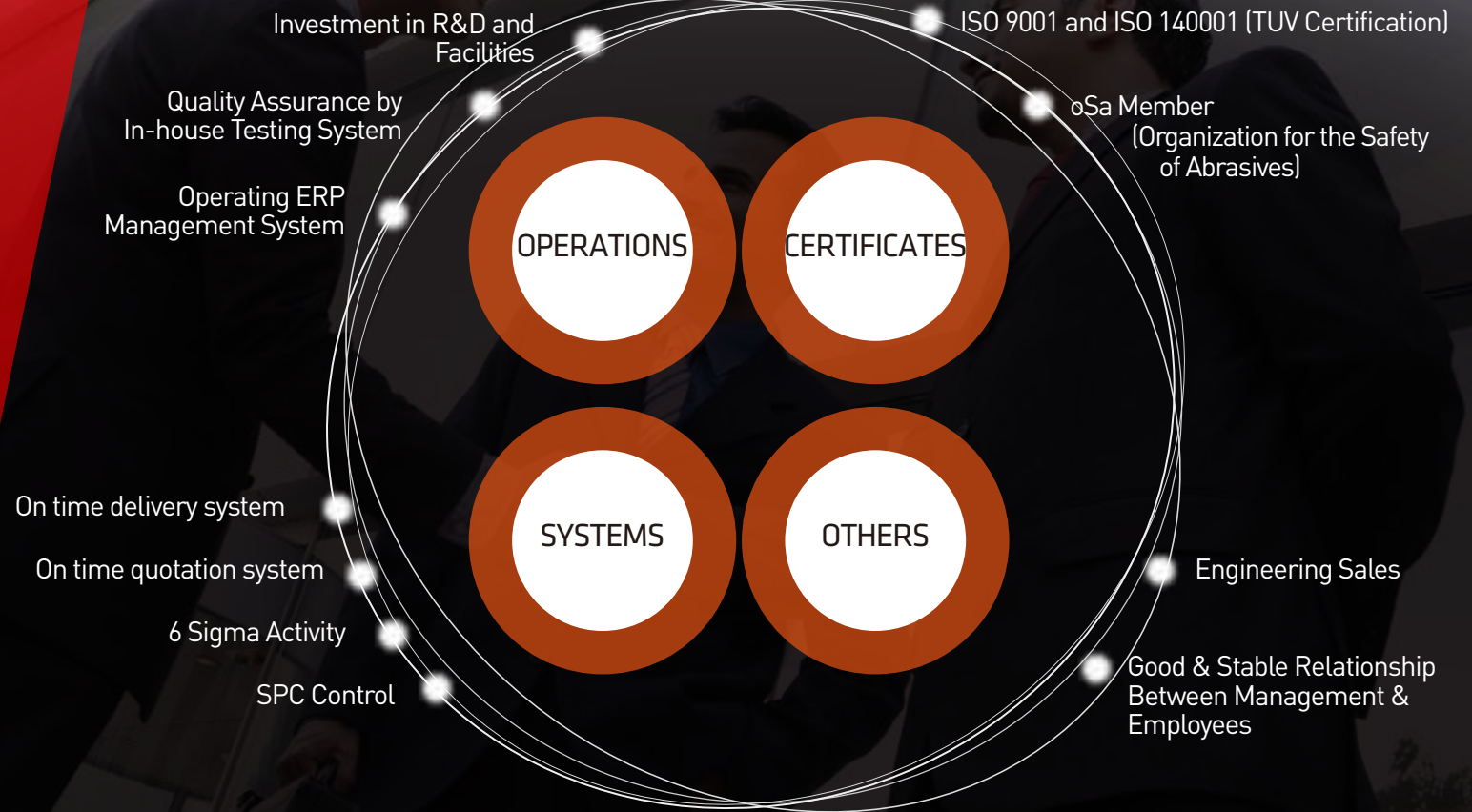
## • Quality Certificate



## • Patents

INDUSTRY	NUMBER
CONSTRUCTION & STONE	48
CUTTING	7
GRINDING	5
SEMI CONDUCTOR	24
MACHINE	2

# OUTSTANDING POINT



# PRODUCT DEVELOPMENT

ARIX Generation II | Gear Dresser  
LED Back Grinding Wheel | Dicing Blade  
Hydrophobic Coated CMP Pad Conditioner

ARIX Generation 3 : G3  
Ultra-Fine & Polishing Back Grinding Wheel

ARIX Wire Saw | Wafer Edge Wheel  
Thin Core Drill | Resinoid Floor Grinding  
High Density CMP Pad Conditioner

Edge Type CMP Pad Conditioner  
KP Plate | Edge Polishing Wheel  
Double Layer B.T Core Drill | ARIX Hybrid Dresser

'09 X-Wing Cutter | ARIX Core Drill  
ARIX-Alpha CMP Pad Conditioner  
Screen Type Roller Dresser  
Vitwell for Cam/Crank

'05 Saw Blade for Emergency | Roll Calibration  
ARIX CMP Pad Conditioner  
Roller Dresser for Double Taper Bearing

'02 Reamer Honing Stone | CVD Dresser  
PCD Scribing Wheel & Shaft  
PCD & PCBN Ball Endmill  
Super Precision Blade (SPB)

'99 Chain Saw | PCD Drill  
CMP Pad Conditioner

'97 Silent Saw Blade | PCD Cutter  
Wafer Back Grinding Wheel | Metal Edge Wheel for TFT-LCD  
Contact Gauge, PCD Shoe

'95 Diamond Cutter for Wood Working  
Diamond Saw Blade for Wood Working  
Panel Sizing Saw Blades | Edge Beveling Cutter  
Scoring-Cutter | V-Cutter

'93 Dry Core Drill  
Laser Welded Segment Type Cutter  
Reverse-plated Diamond Rotary Dresser

'91 Diamond Wire  
PCD Reamer  
Sintered Diamond Rotary Dresser  
Diamond Block Dresser

'91 Multi-Cutting Saw Blade

## SHINHAN BUSINESS

### '01 CONSTRUCTION & STONE

Saw Blade, Core drill Polishing Cup, Wire Saw, Cutter



Saw Blade



Core Drill



Wire Saw



Polishing Cup

### '02 PRECISION

Bite, Roller Dresser, Honing Stone, Vitri Grinding wheel



Honing stone



Bite



Vitri Grinding Wheel



Roller Dresser Wheel

### '03 SEMI-CONDUCTOR

CMP Pad Conditioner, Wafer Back Grinding, Scriber, Edge Grinding



TFT-LCD Edge Grinding



Wafer Back Grinding



CMP Pad Conditioner



Scriber

# SHINHAN BUSINESS

## 01 CONSTRUCTION & STONE



Saw Blade



Core Drill



Wire Saw



Polishing Cup

- Saw Blade, Core drill  
Polishing Cup, Wire Saw, Sintered Blades

## 02 PRECISION



Honing Stone



Bite



Vetri Grinding Wheel



Roller Dresser

- Bite, Roller Dresser  
Honing Stone  
Vetri Grinding wheel

## 03 SEMI-CONDUCTOR



TFT-LCD Edge Grinding



Wafer Back Grinding



CMP Pad Conditioner



Scriber

- CMP Pad Conditioner  
Wafer Back Grinding  
Scriber, Edge Grinding

# CONSTRUCTION & STONE

## Conventional Construction & Stone Tools



Stone Blade  
for Clean Cutting



Electroplated Cutter



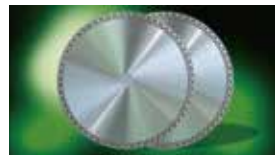
Grooving Saw 12"



Multi Saw Blade



Duraster Cutter



Rhombus Cutter



Grooving Saw 8"



Plastic Cup  
(Grinding Wheel)



Astra Cutter



Wave Cutter



Diamond Wire



Turbo Grinding Wheel



Wave-Cored  
Turbo Cutter



Spike Cutter



Wire Bead



Grinding Wheel



Rim Cutter



Crack Chaser(CRC)



Segment for Stone



Cup(Grinding Wheel)



Turbo Cutter



Tuck Pointing Blade  
(TPN/TPH)



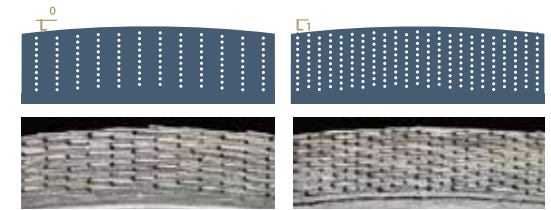
Brazed Diamond Tools



Various Range  
of Diamond Tools

# CONSTRUCTION & STONE

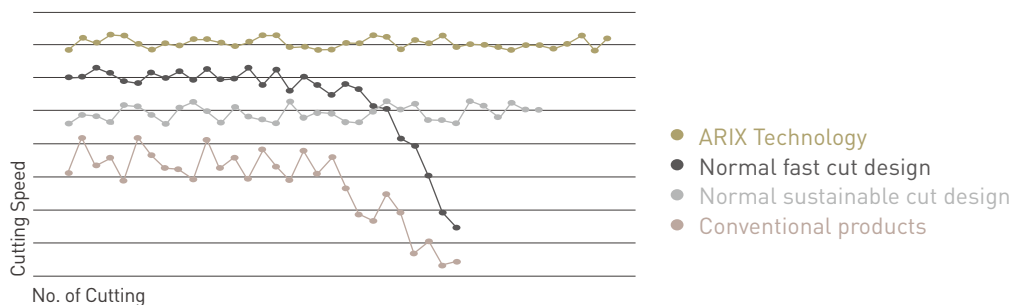
## Basic Theory of ARIX Technology



(Control the space among diamond grits, wide (L0) or narrow (L1), as you want)

It is almost impossible to find one perfect solution of diamond tools that is the best for every case no matter what you are in need of. However, what if it is possible to find a way to realize one perfect solution for each case? ARIX Technology is to place diamond grits precisely in three dimensional patterns and to deliver the best performance to you in all cases.

## Functional Arrangement of Diamond Grits



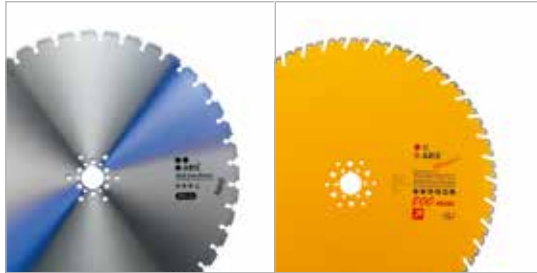
The three dimensional patterns that ARIX Technology can arrange diamond grits in are various as you find some examples below. We wouldn't blame you even if you call ARIX an art rather than a technology.

See how different the cutting performance of ARIX products is from those of other diamond cutting tools. It is faster, more stable, and more sustainable.

# CONSTRUCTION & STONE

## ARIX Products

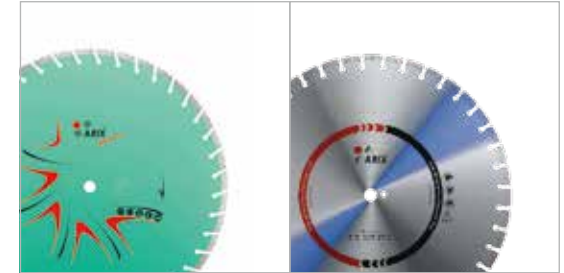
ARIX Blades  
for Wall Saws



WX

W2X-Generation II

ARIX Blades  
for Floor  
/ Road Saws



F2X-Generation II

FX

ARIX Blades  
for hand held Saws



H2X-Generation II BF

H2X-Generation II Turbo

HX

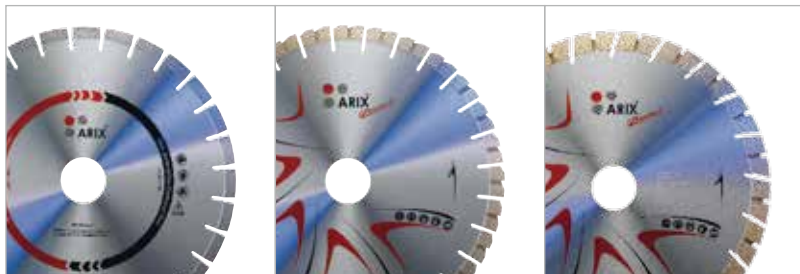
ARIX G3



FX(Concrete)

FX(Asphalt)

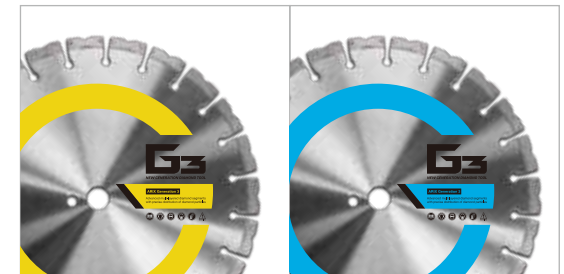
ARIX Silent Blades  
for Granite



GX

EX Type

G2X - ND Type



FX(Granite)

FX

# CONSTRUCTION & STONE

## ARIX Products

Ring Saw Blades  
/ Diamond Wire



Ring Saw Blades



Diamond Wire

ARIX Blades  
for ASP'T /  
Green CON'C /  
Prestressed



Asphalt Blades



Green Concrete  
& Prestressed

ARIX Wet Core Bits



C2X-Generation II  
Rooftop



CX

ARIX Dry Core Bits



ARIX Dry Core Bits



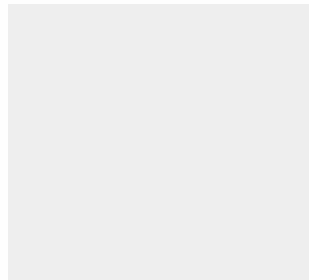
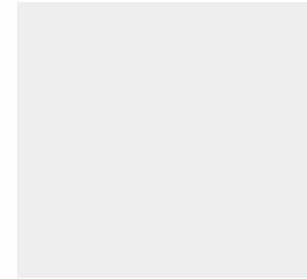
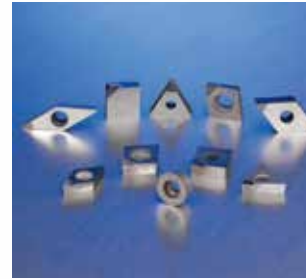
ARIX Dry Core Bits



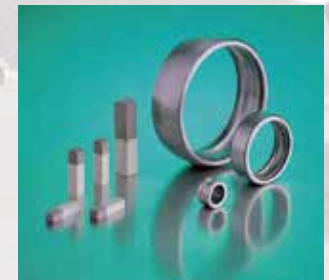
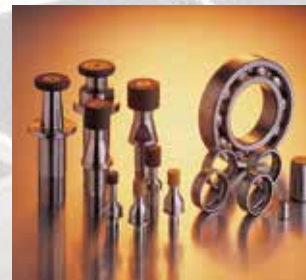
# PRECISION TOOLS

Category

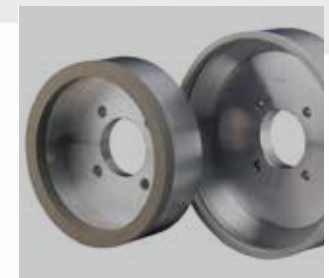
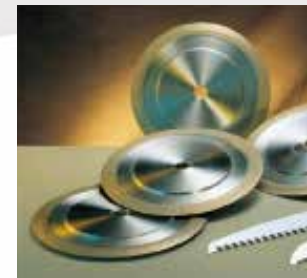
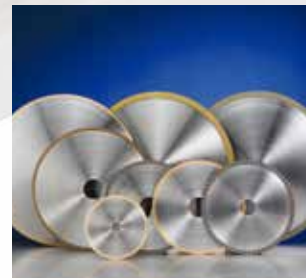
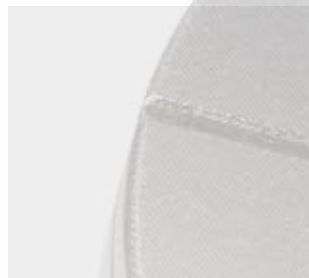
*Transportation*



*Bearing*



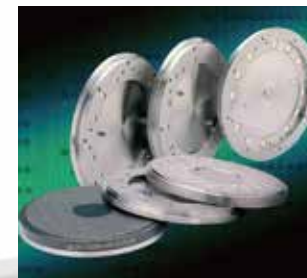
*Wood Working  
& Machining*



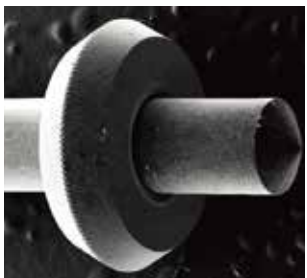
# PRECISION TOOLS

Category

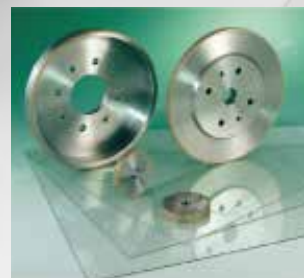
*Semiconductor*



*Display*



*Glass  
& Optical*



# PRECISION TOOLS

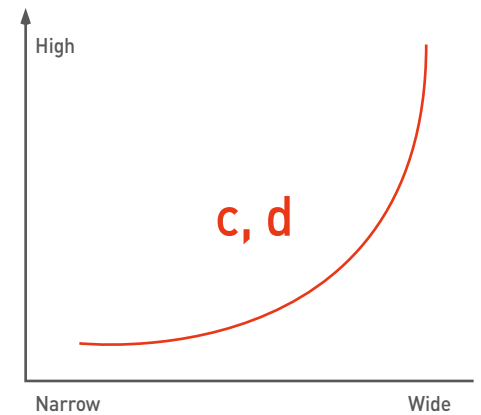
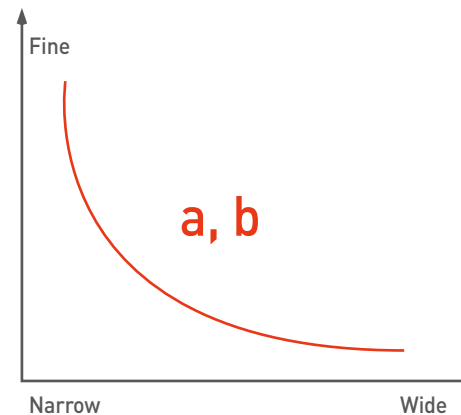
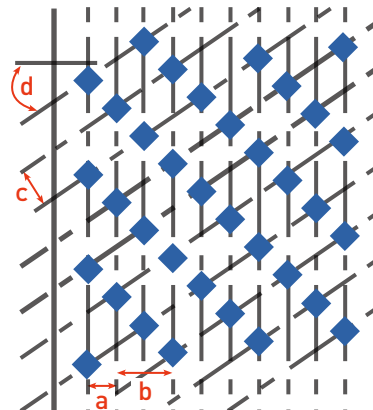
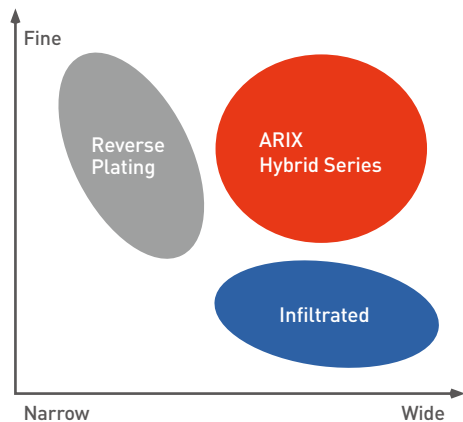
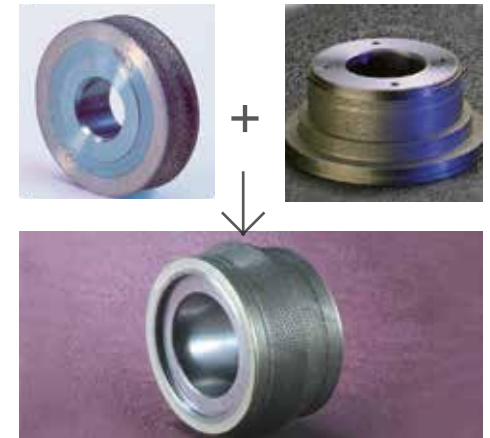
## Hybrid Dresser



Roller dresser having complicate & precise shape and high productivity through dressing several area with one production process is required in the field.

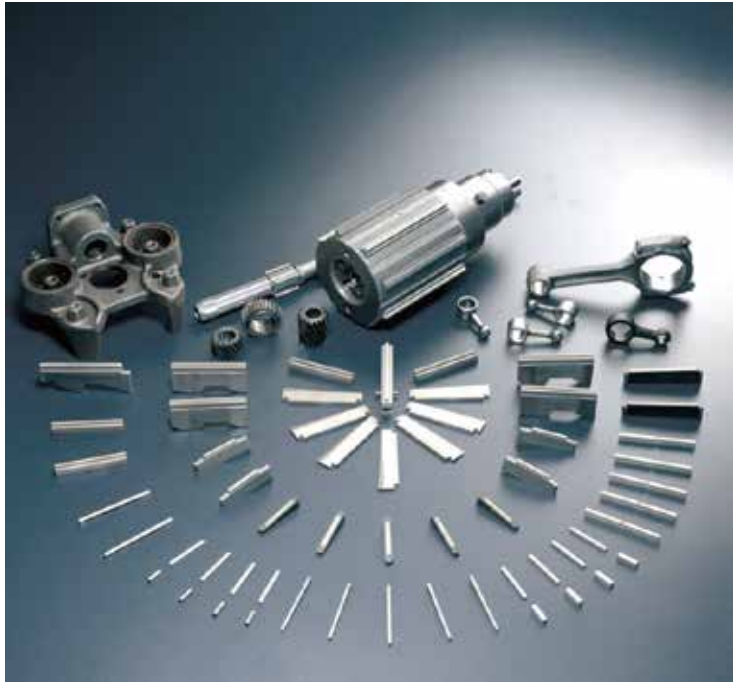
ARIX-Hybrid Dresser is suitable especially for wide and big applications with high tolerance and roughness.

ARIX-Hybrid Dresser has very short production lead time with the innovative production process.



# PRECISION TOOLS

## Honing Stone for Inner Grinding

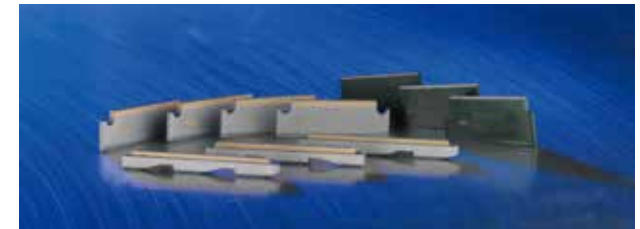


Purpose is to produce surfaces having high dimensional accuracy, uniform geometry, fine and controlled finish.

Honing Stone enables the axial lubrication transfer of bearing through forming X-hatches on the surface of inner part of workpiece.

### Advantage of Product

- Application of various mesh sizes on customer's demands.
- Maximized efficiency through innovative grinding performance.
- Cost retrenchment .
- Excellent cost performance.



### Application

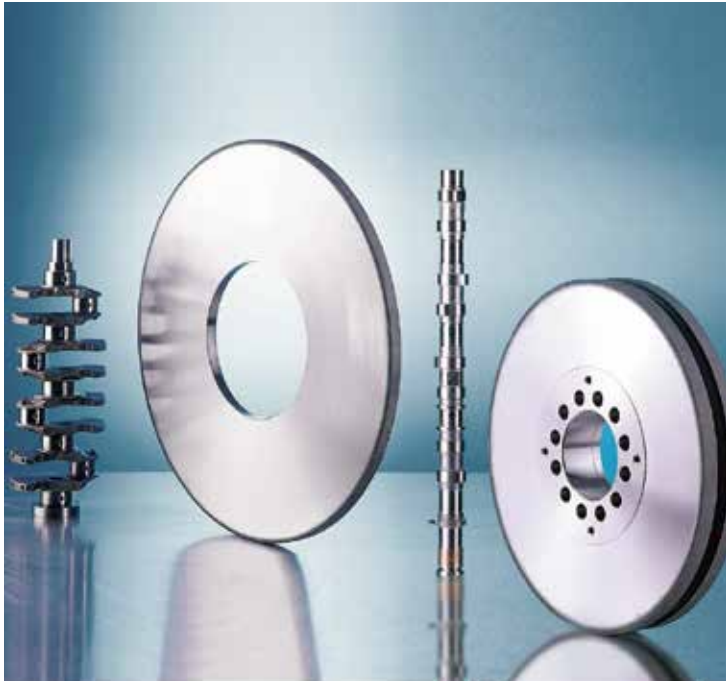
Cylinder Block, Connecting Rod, Components of an Injection Pump, Gear and etc.

### The newly developing wheel

MV (Hybrid)	MVC	MVE	MVA	MVF	Soft
M-A1	M-A110	M-A15	M-A13	M-A1	
HA	HA10	HA5	HA3	HA1	
HB	HB10	HB5	HB3	HB1	
HC	HC10	HC5	HC3	HC1	
					Soft ←—————→ Hard

# PRECISION TOOLS

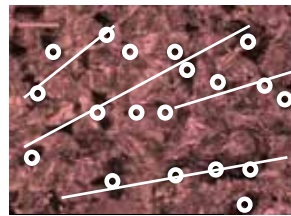
## Vit-Well Vitrified CBN Wheel for CAM & Crank Shaft Grinding



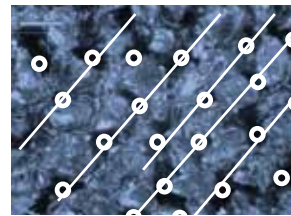
Newly developed Vit-well Method applied to Shinhan's CAM & Crank Shaft Grinding Vitrified CBN Wheel .

Good grinding speed with quality surface.

### Comparisons of Vit-Well & normal wheels



Normal : Irregular Pores



Vit-Well : Arrayed Pores

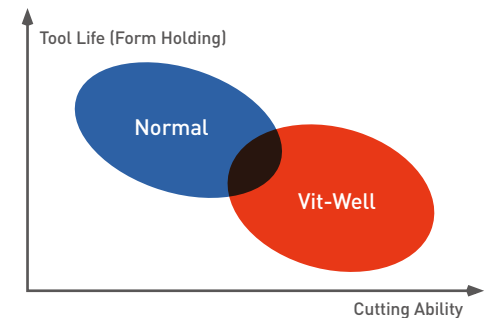
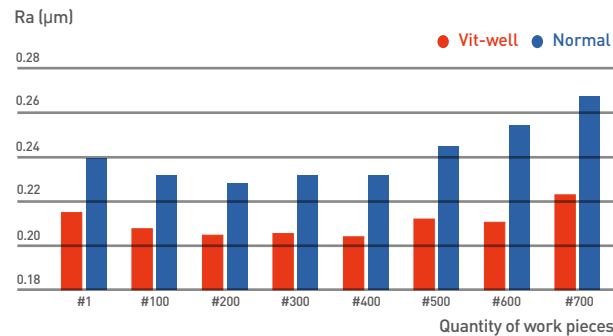
### Strong Point

- Stable grinding ability with great consistency.
- Improved tool life with longer dressing interval.
- Stable surface roughness with high accuracy.

### The Newly Developing Wheel



- Higher tensile strength
- Higher tensile modulus
- Lower specific gravity
- Better visual effect



# PRECISION TOOLS

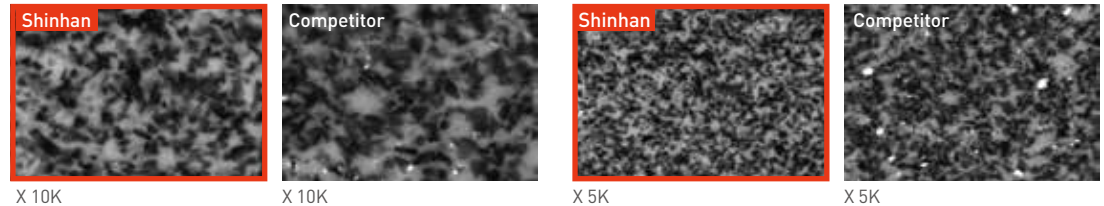
## PCBN Insert for Hardened Steel



General-purpose PCBN insert for typical Hardened Steel.  
Used for continuous turning and medium interrupted turning of Hardened Steel.

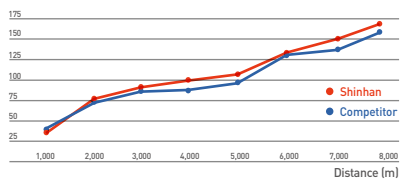
### Strong Point

Incredible Dispersion of Diamond.

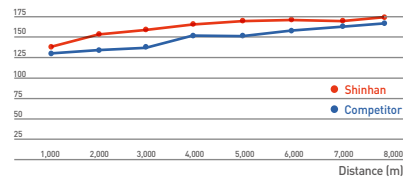


### Performance

#### Flank wear



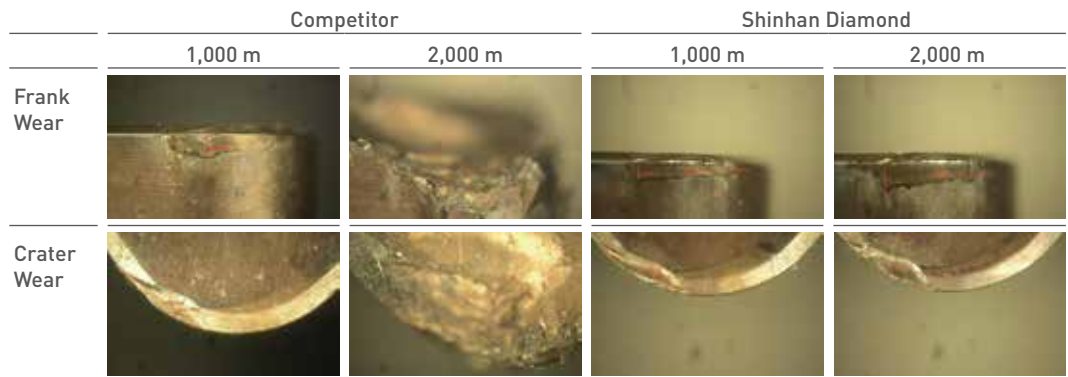
#### Crater wear



Work piece : SCM439\_2V-grooved material (HRC 55~60)

Tool model No. : 2NU\_CNGA120408

Cutting conditions : Vc=150m/min , f=0.15mm/rev, ap=0.15mm, Dry



# DISPLAY

## Scriber

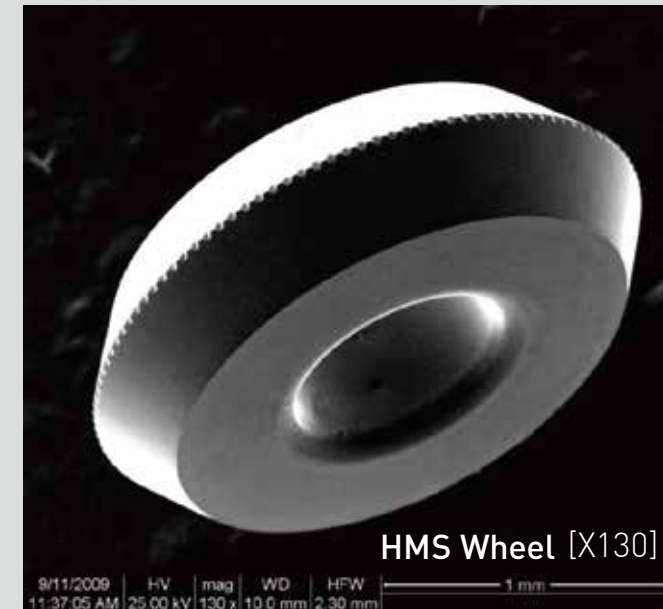
### [PCD Scriber Wheel Introduction]

SDC provide the scriber wheel for the thin glass with superior and stabilized quality based on the extremely controlled technique. Throughout 35 years of SDC's history, SDC established the various technique in industrial diamond tool industry and we are ready to supply the top quality product to customer.

### [Advantage of SDC's Scriber Wheel]

1. To achieve the superior mass production quality, SDC apply the PCD
2. The longer tool life time is realized by adopting of fine grade diamond.
3. All of the inspection process is applied to the 100% of the wheel.
4. SDC's all of the Scriber wheel is manufactured by the CNC equipment.
5. The stronger glass die strength is realized by extremely controlled cutting quality.
6. To meet the customer request, SDC develop the future product and technique consistently.

## PCD Scriber Wheel



# SEMICONDUCTOR

## Semiconductor Tools



CMP Pad Conditioner



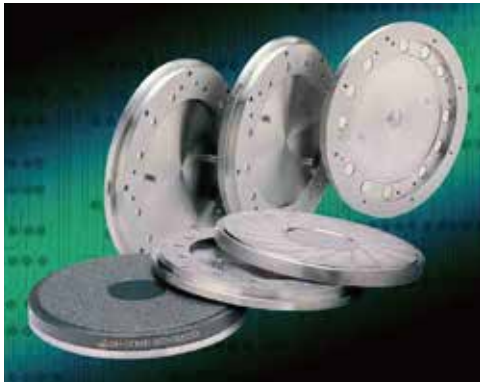
Back Grinding Wheel



LCD Edge Grinding Wheel



Super Precision Blade (SPB)



Magnetic Holder



Silicon Wafer Edge Grinding Wheel



Gettering Dry Polishing Wheel



Dicing Blade



# SEMICONDUCTOR

## BGW (Back Grinding Wheel) for Silicon Wafer & Sapphire Wafer

### Introduction

Shinhan's BGW consists of several product family such as Vitrified and Resin bond. VF9 and VP1, which are Ultra fine product, can improve workpiece(Si-wafer)'s roughness and Die strength. Also it possibly skips the polishing process.

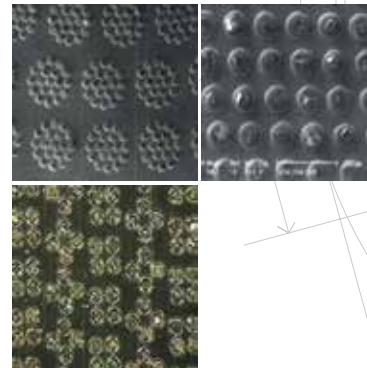
Contents	Mesh	#200	#270	#325	#400	#500	#600	#800	#1000	#1500	#2000	#2200	#4000	#6000	#8000
		Resin	-	-	-	-	GV10 GV80	BX40	-	-	-	BF08 RP32	-	RP06 RP42	-
Silicon Wafer	Vitri	-	-	-	-	VC5	-	-	-	-	-	-	VM3	-	VF9
Sapphire Wafer	Metal	MSS35	LM7	MYG55	MSS05	-	-	-	-	-	-	-	-	-	-
	Vitri	VDG	-	VV3	-	-	SA2	-	SV7	-	SA152H	GRAPEX	-	-	-



## CMP Conditioner

### ARIX Type

It's easy to meet the customer's target performance with flexible & accurate diamond arrangement.





“ In the end, We know that we will be judged by the things that give us our edge.”

