



PRECISION INDUSTRY

for DIAMOND TOOLS



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about SHINHAN DIAMOND

shinhandia.co.kr
en.shinhandia.co.kr

We,
Shinhan Diamond
strive to become
Global No. 1

Shinhan Diamond Industrial Co., Ltd. has produced a variety of diamond tools from products for precision industries since its establishment in 1978.

Our products are widely used in the country's main industries such as steel, 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.



Introduce
Shinhan Products

Precision Tools

01 PCD Scriber

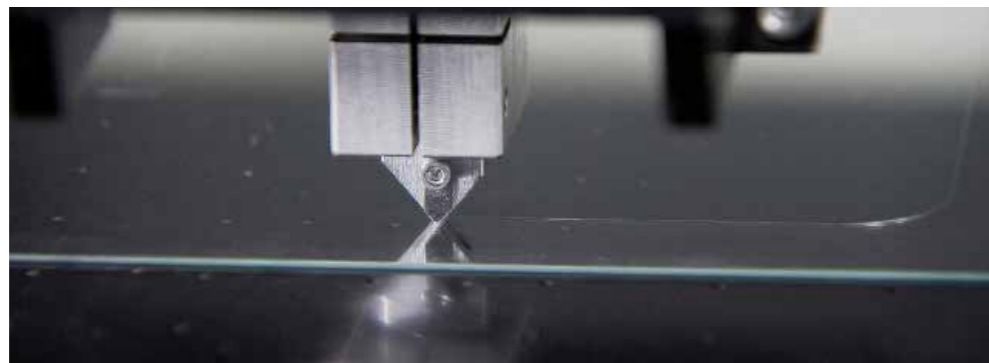
Normal · HMS Wheel · PCD PIN

Concept

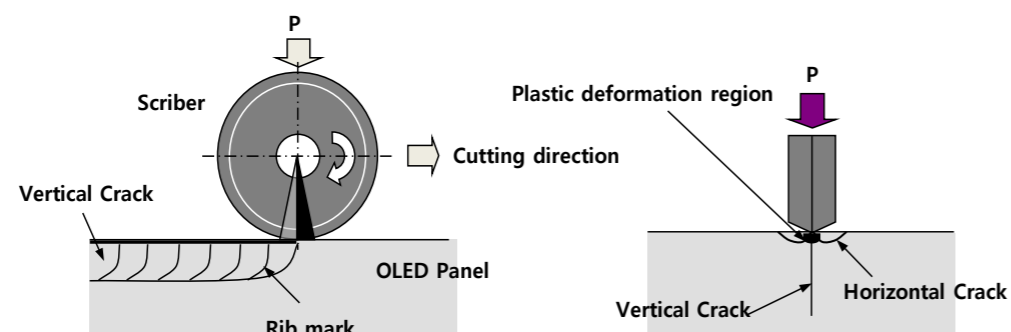
Stability and longer life are realized by the use of high quality sintered diamond with high strength.
As a result of this process, work loss is reduced and we can contribute to enhanced productivity.

Application

TFT-LCD, PDP, OLED, Various Optic Products / Industrial Glass

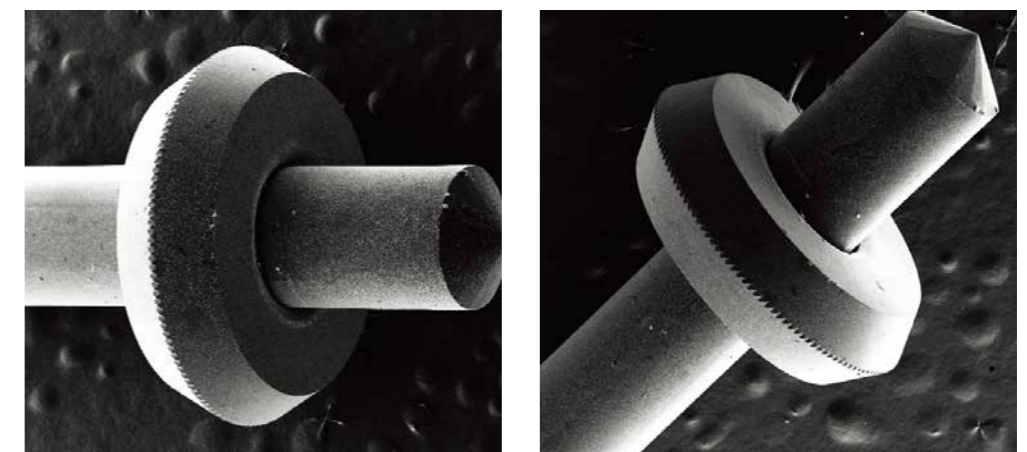
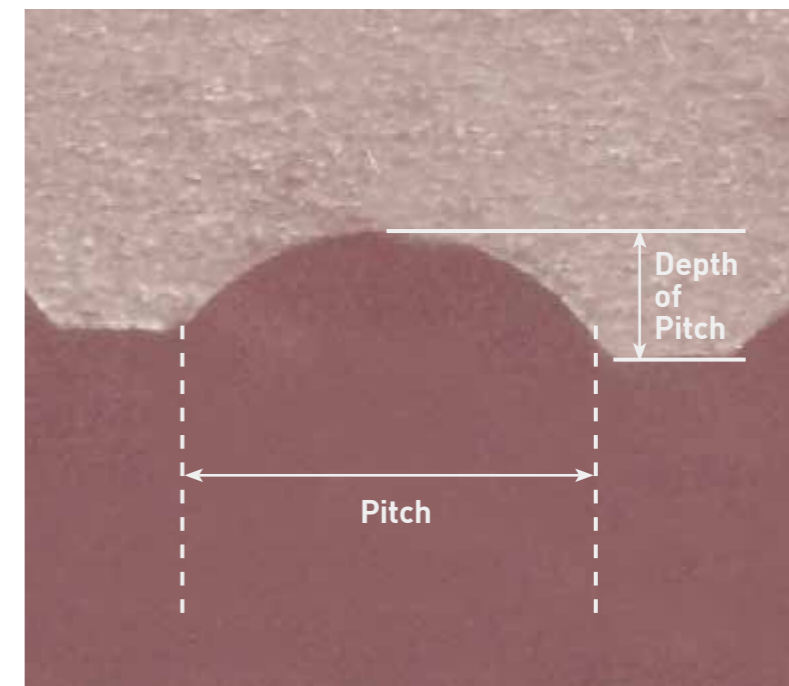


Scribing Process



Merits of Product

High precision and top class fine cutting by the application of unique processing technology.
High quality, stability and repeatability were realized by using optimized CNC machine and proceeding the process.
Because of high accuracy of dimension control and its durability, it performs to prevent horizontal cracks at minimum level and to increase the vertical cracks to get the fine surface of cutting edge. It has about 10 times higher productivity than tungsten carbide.



02 Bite | Endmill

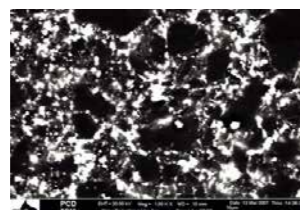
Concept

A rotary tool is manufactured by welding PCD tip on a metal body to take advantage of the high hardness and wear resistance of the PCD.

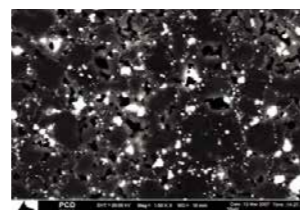
Application

It is excellent cutting tool to contribute to longer tool life due to property of the material which is much stronger than ceramics.

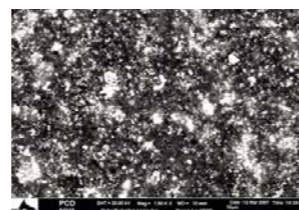
Grade	Particle Size (μm)	Characteristics	Applications
SD10	5	- Medium grain size - Good polish and edge quality	- Multi purpose metal and wood working - AL alloy (Si < 12%), Cu alloy, Carbon-Carbon fiber
SD30	10	- For general purpose	- Multi purpose metal and wood working2. AL alloy (Si < 12%), Cu alloy, Carbon-Carbon fiber
SD21	1	- Extra fine grain size - Good homogeneity - Excellent edge quality	- Multi purpose metal machining - AL alloys (Si < 12%), Cu alloys superior finish



SD10



SD30



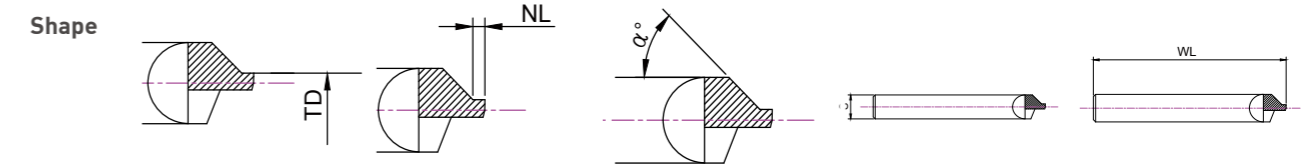
SD21

Merits of Product

It has a high lifetime and intensity than carbide tool.
Ensure reproducibility of the quality and life through Micron Unit dimensions control.

Item Specifications

Division	Description				
Name	Tool Diameter (TD)	Neck Length (NL)	Chamfer Angle (α)	Shank (S)	Whole Length (WL)



Example

Item Name	Spec Description
Window bite	[Vendor Part Number], td x nl x α x S x wl →1.5 x 0.9 x 45 x S6 x 40

03 Edge Polishing

Concept

Edge polishing tool is used to chamfer angle process of the mobile glass.

Application

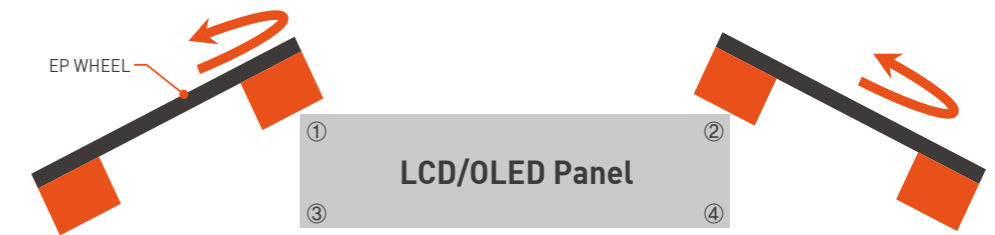
Mobile, LCD & OLED Glass Edge Polishing.

Merits of Product

EP Wheel is used for improving strength through removing chip and crack size.
EP wheel is used to improve bending strength of workpiece by removing vertical crack in scribing process.

Edge Polishing Mimetic Diagram

Edge Polishing Process



04 Multi Wheel

Concept

Multi wheel is used for removing the micro-crack on the LCD panel after scribing.
This tool take a Role of cleaning working surface with the PAD's LCD line circuit.

Application

LCD TV, Monitor panel edge grinding for strength improvement.



Merits of Product

Using multi wheel is used for improving strength by polishing chip and crack.

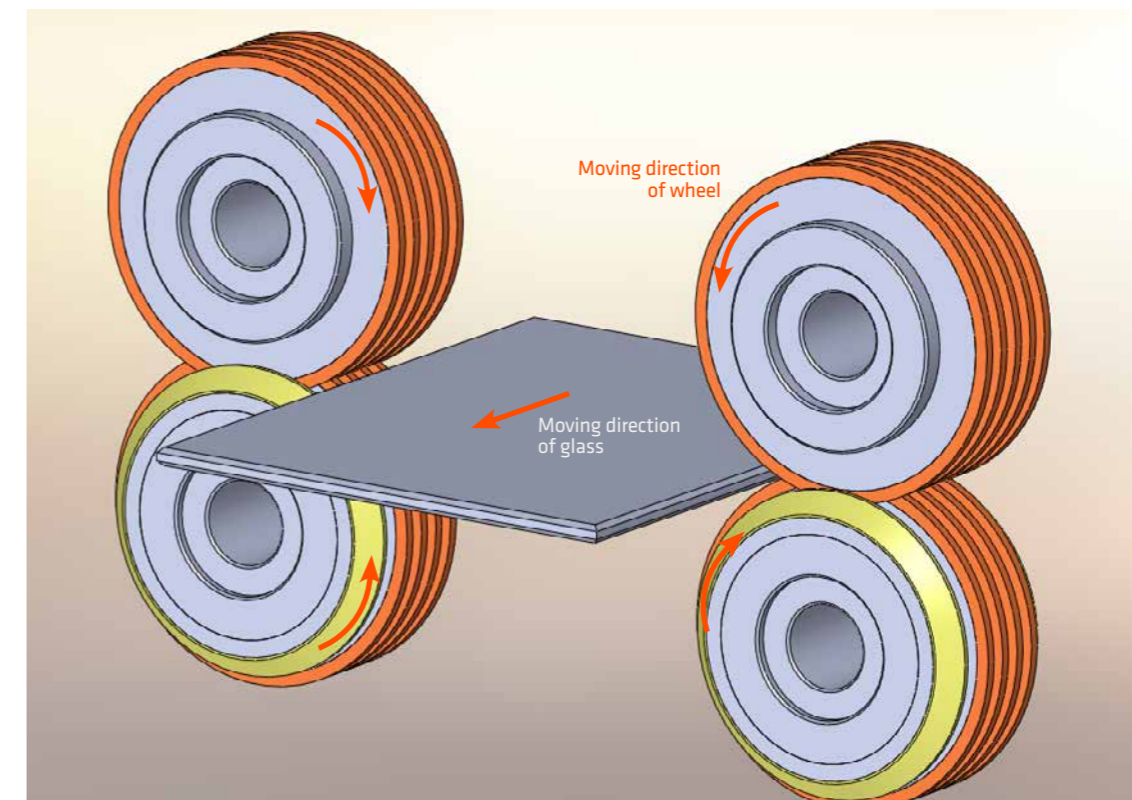
Chamfer form	C Chamfer
Life	8months
Advantage	Prevention of glass bending Reduced contact surface Advantages for supplying Ground water → Processing speed can be raised
Weakness	Product abnormality in case of balance problem Hard way to make

MULTI WHEEL Mimetic Diagram

Before processing



After processing



05 Edge Grinding Wheel

Concept

Edge wheel is used to grind edge of flat display to improve bending strength.

Application

LCD/OLED Row Glass, LCD Panel.

Merits of Product

Edge wheel is used to improve bending strength of workpiece by removing vertical crack in scribing process.



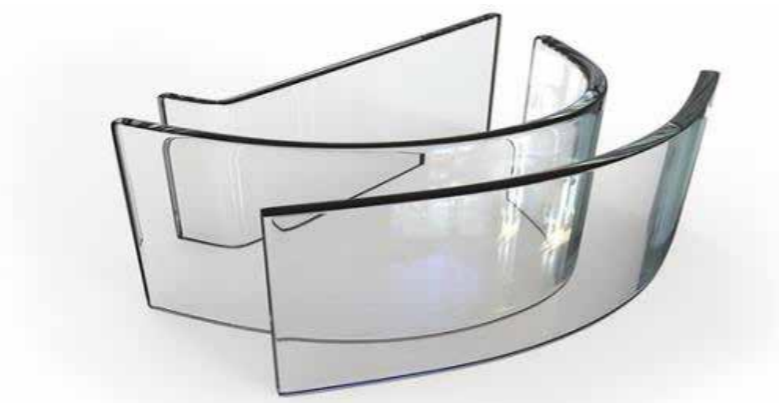
06 Electroplated Bond Wheel

Concept

Electroplated bond Wheel is used to grind Edge of LCD panel improving roughness of Glass.

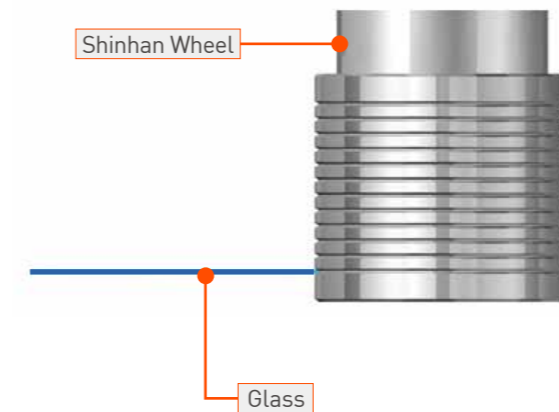
Application

TFT-LCD, OLED Glass

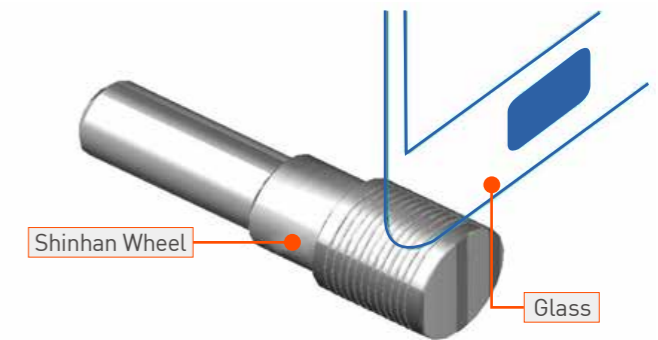


Manufacture Mimetic Diagram

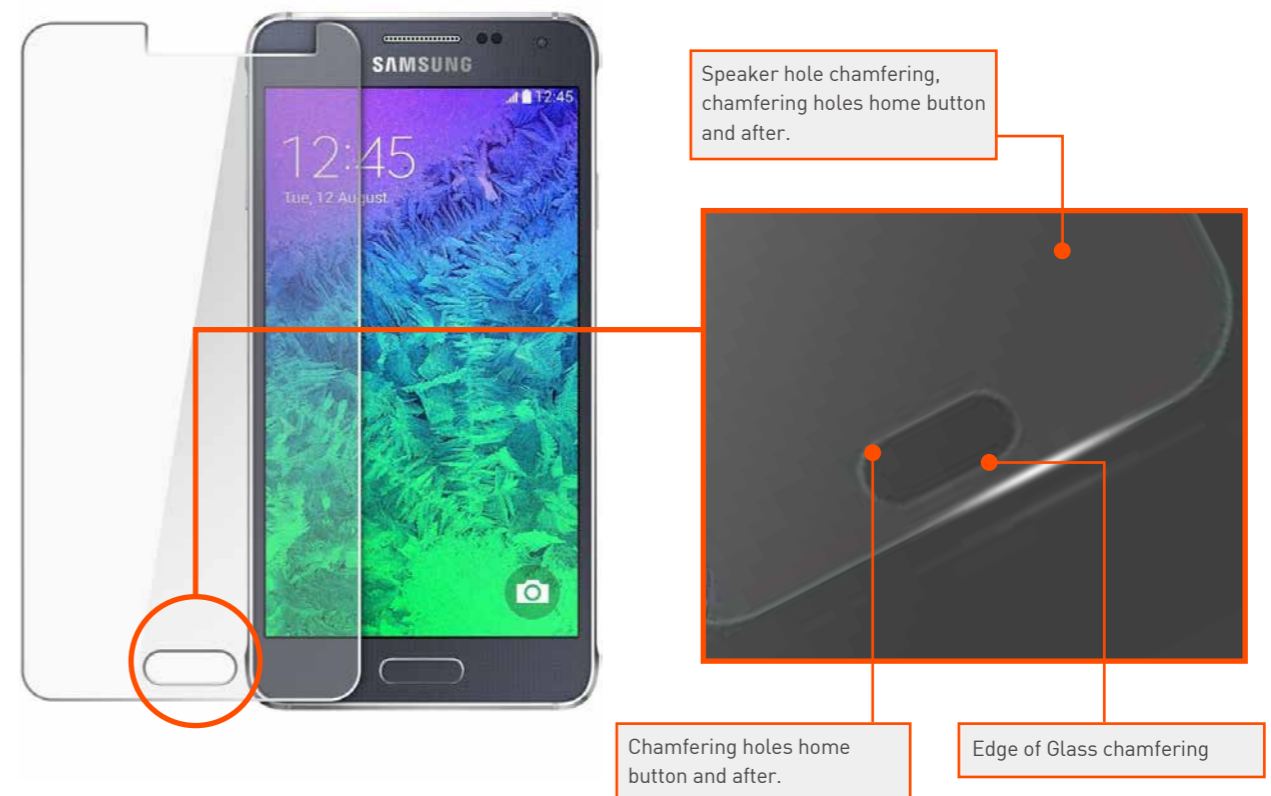
01



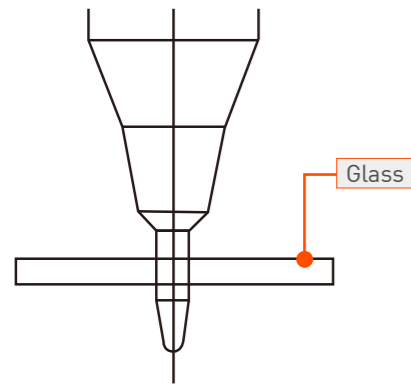
02



Example Extension Image

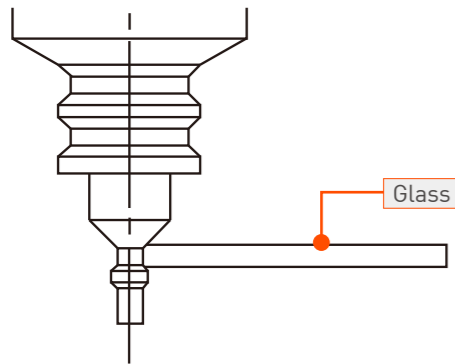


Electroplated Bond Wheel



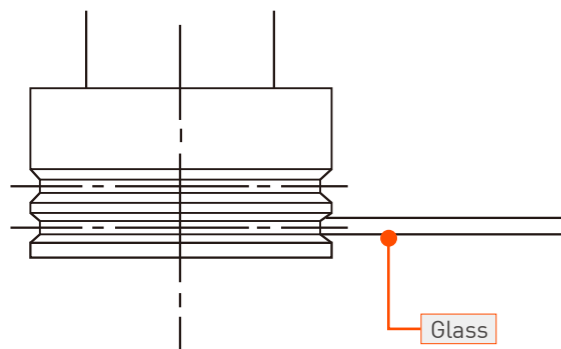
Perforation Wheel (Rough)

This tool is used for punching home button and ear hole of device.



Perforation Wheel (Finishing)

This tool is used for second chamfering home button and the ear hole of device.



Chamfer Wheel

The tool is used for chamfering in LCD, OLED panel.

Item name of Electroplated bond Wheel

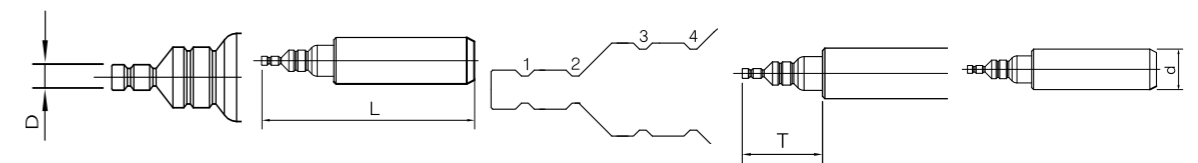
Division	Description	
Name	EP Flat	EP Groove

Shape



Division	Description				
Name	Tool Diameter (TD)	Whole Length (WL)	Groove (G)	Diamond Length (DL)	Shank (S)

Shape



Example

Item Name	Spec description
EP_Groove	[Vendor Part Number], td x nl x α x S x wl → 1.5 x 0.9 x 45 x S6 x 40



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shinhandia.co.kr
en.shinhandia.co.kr



Head Office & Factory

21635, [36B – 10L, Namdong Induspark] 375 Namdongdong-ro, Namdong-gu, Incheon, South Korea
TEL. +82. 32. 810. 3310 **FAX.** +82. 32. 810. 3414 **E-mail.** webmaster@shinhandia.co.kr
Web. www.shinhandia.co.kr

R&BD Center

21999, 116 Gaetbeol-ro, Yeonsu-gu, Incheon, South Korea
TEL. +82. 32. 810. 3314 **FAX.** +82. 32. 814. 1194 **E-mail.** webmaster@shinhandia.co.kr

USA

Shinhan Diamond America, Inc., 900 S. Ajax Ave. City of Industry, CA 91748, USA
TEL. +1. 626. 363. 9258 **FAX.** +1. 626. 363. 9259 **E-mail.** jkoh@shinhandia.co.kr

China

No. 45 Dongjing Road, Qingdao Free Trade Zone, Shandong Province, China
TEL. +86. 532. 8676. 8555 **FAX.** +86. 532. 8676. 8355 **E-mail.** webmaster@shinhandia.co.kr
Web. www.shinhandia.cn

Shanghai

1633 room, 16/F Oriental Century Plaza, No. 345 Xian Xia Road, Shanghai, 200336, China
TEL. +86. 21. 6229. 2685 **FAX.** +86. 21. 6229. 2010 **E-mail.** webmaster@shinhandia.co.kr

Germany

Mergenthaleralle 79 – 81, 65760, Eschborn, Germany
TEL. +49. 6196. 761. 0777 **FAX.** +49. 6196. 775. 874 **E-mail.** webmaster@shinhandia.co.kr