

# NDS

**GRINDING  
WHEELS**

Finely Ground

**WAFER  
MOUNTER**

Stable / Reliable

**CURING  
SYSTEM**

Energy-saving

**DICING  
SAW**

Accurate / Efficient

**WAFER  
CLEANER**

Eco-friendly

**CHUCK  
TABLE**

Customize

**WAFER  
EXPANDER**

Auto-cutting

**DICING  
BLADES**

Accurate / Fast

**CO<sub>2</sub>  
BUBBLER**

Anti-static

**DICING  
TAPE**

Consistent Adhesion

# SMART SOLUTION by **NDS**<sup>®</sup>





# NANO 321

## High Precision Dicing Saw

### Dual Scope with Different Magnifications

Speed the automatic alignment sequences while keep the precision of positioning.

### High-stiffness spindle design with low vibration

High performance air-bearing spindle provide reliable and high precision cutting quality.

### Non-contact Setup

Avoid fruitless blade wearing or damage during setup. Available during cutting process to enhance cutting reliability and increase productivity.

### Axial / Ring Light

Highlight the fiducial marks on workpiece with appropriate lighting.

### Variety of Chuck Tables

Accommodate different kinds of table to meet customized requirements.

### 15" Touchscreen Display

Featuring big size touch panel with graphic user interface.

## HIGH THROUGHPUT



## SPECIFICATIONS

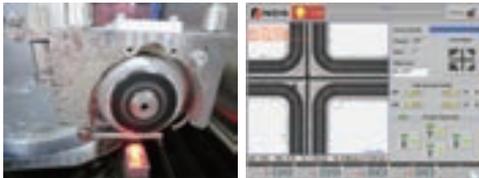
Item	Descriptions	Unit	NANO 321	
Workpiece size			$\Phi$ Max. 12"/ Max. 320 mm square	(*)
X axis	Cutting range	mm	320	
	Max. cutting speed	mm/s	0.1~600	
Y axis	Cutting range	mm	320	
	Index step	mm	0.00005	
	Positioning accuracy	mm	0.003 or less /320	(Single error)
Z axis	Max. stroke	mm	32.2	
	Moving resolution	mm	0.00005	
	Repeatability accuracy	mm	0.001	
	Max. blade size	mm	$\Phi$ 60	
$\theta$ axis	Max. rotating angle	deg	360	
Spindle	Output	kW	1.8 at 60,000 min <sup>-1</sup>	
	Rated torque (30K PRM)	N · m	0.35	
	Revolution speed range	min <sup>-1</sup>	6,000~60,000	
Applicable tape frame		-	2-12-1	
Utilities	Machine dimensions	mm	1290W × 1180D × 1800H	
	Machine weight	kg	Approx. 1,200	(without transformer for overseas use)

\* A special jig is required.

\*Specifications are subject to change without notification.



## PIONEER VISUAL CUTTER SETUP



# NANO 150G

## High Precision Dicing Saw

### Unique Z-axis Design

Realizes high stability.

### Innovative Vacuum System

Reduces 60% air consumption.

Significantly reduce carbon footprint.

### Shortening Execution time of cutter setup

VCS is faster than traditional photoelectric sensor.

Increase working proficiency and improve productivity.

### Improved operability

Ergonomic sloped touch screen design provides proper visual angle and is easy to use.

## SPECIFICATIONS

Item	Descriptions	Unit	NANO 150G
Workpiece Size			<b>Max. <math>\Phi 6''</math> or <math>\square 6''</math></b>
Spindle	Max. revolution speed	rpm	<b>60000</b>
	Max. output	kW	<b>1.2</b>
X axis	Cutting range	mm	<b>160</b>
	Speed range	mm/s	<b>0.1 ~ 300</b>
Y axis	Cutting range	mm	<b>160</b>
	Moving resolution	mm	<b>0.000125</b>
	Positioning accuracy	mm/mm	<b>0.003/5</b>
Z axis		mm/mm	<b>0.005/160</b>
	Max. stroke	mm	<b>25</b>
	Moving resolution	mm	<b>0.00025</b>
	Max. Blade O.D.	mm	<b>60</b>
$\theta$ axis	Repeatability accuracy	mm	<b>0.001</b>
	Max. Rotating angle	deg	<b>360</b>
System	Resolution	sec	<b>0.405</b>
	Display		<b>15" Color LCD</b>
Utilities	Language		<b>Chinese/English</b>
	Outline dimensions	mm	<b>650W x 860D x 1580H</b>
	Weight	kg	<b>320</b>

\*Specifications are subject to change without notification.

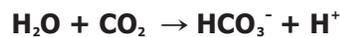
# HERMES

## Automatic Ultrapure Water Anti-static System

Hermes Ultrapure water antistatic system for ESD protection, developed by AVVA R&D Corp, can constantly control the ultrapure water resistivity within high precision range during dynamic flow. It can calibrate the resistivity instantly in high water flow rate situation. Easy maintenance. Zero consumables.

### Purpose of CO<sub>2</sub> Bubbler

Preventing ESD during the dicing or grinding process.  
Preventing ESD when ultrapure water flows through the pipes.



### APPLICATION

- Wafer Dicing/ Wafer Grinding/ Laser Grooving /Scrubber/ Water Jet Cleaning/ Stripper cleaning
- Water Jet Cleaning/ HPMJ

### MONITORING PERFORMANCE

EC250S Monitoring 2 sets of dicers.



**WORLD NO.1**

## SPECIFICATIONS

### CO<sub>2</sub> + Surfactant Machine

Item	Unit		
Ideal Range	MΩ-cm	<b>0.1~1.0</b>	(*1)
Ideal Target	MΩ-cm	<b>One/ Multiple</b>	
		<b>0.3~0.7</b>	(*2)
Static Flow	MΩ-cm	<b>±0.05</b>	(*3)
Dynamic Flow	MΩ-cm	<b>±0.3</b>	
Capacity	Lpm	<b>5~30/40/50</b>	(*4)
Air Intake		<b>Variable high-pressure active system</b>	
Parameter Setting		<b>Six parameters</b>	
Regulatory Element		<b>World Patent Control system</b>	
Consumables Costs		<b>No</b>	
Lead Time		<b>4 Weeks</b>	
Pipeline Design		<b>HPVC Pipe</b>	
Monitoring		<b>Resistivity/ Water flow / Temperature / Water Pressure</b>	
Alert Setting		<b>Resistivity/ Temperature</b>	
Display		<b>7" Touch Panel</b>	
Size	cm	<b>40 x 70 x 127</b>	

\*Specifications are subject to change without notification.  
\*Other series, with no surfactant connecting, are also available upon request.

\*1 \*2 Standard units: Customized units for special resistivity are available upon request.

\*3 Constant water flow for more than 10 mins.

\*4 Maximum operation flow rate +10% Lpm



# NDS 412CSW-NB

Wafer cleaner

**Applicable to 8 , 12 inch wafer.**

**For cleaning and drying after dicing.**

- Atomizing cleaning with nozzle
- 10 sets of cleaning programs
- User-friendly interface / PLC control
- Rapid cleaning
- Customized solution for cleaner with solvent and brushes are also available upon request

## SPECIFICATIONS

Item	Unit	NDS 412CSW-NB
Workpiece	inch	<b>12 / 8</b>
Cleaning Method		<b>Atomizing Cleaning</b>
Spinner Velocity	rpm	<b>100-3000</b>
Time Setup	sec	<b>0-999</b>
Size	mm	<b>950W x 600D x 1200H</b>
Weight	kg	<b>170</b>
Power		<b>Single Phase AC220V 50/60Hz</b>

\*Specifications are subject to change without notification.

**10 PROGRAMMABLE RECIPES**



# NDS 506/508CS

Wafer Expander

**Accommodates 4" to 6" wafer expanding**

- Temperature control for better expansion of tape (within  $\pm 5^{\circ}\text{C}$ )
- Adjustable expansion
- Auto-cutting function
- Customized size is upon request

**EASY OPERATION**



# NDS 208CSV NDS 212CSV

Semi-automatic Wafer Moulder

**Applicable to 8, 12 inch wafer**  
**Good mounting performance**  
**Easy maintenance**

**AUTOMATICALLY LAMINATED**



- Stable laminating process
- Saving tape consumption
- User-friendly interface
- Adjustable tape tension
- Sensor installed to secure safe operation
- Pressure shown in the monitor for better control

## SPECIFICATIONS

Item	Unit	NDS 208CSV	NDS 212CSV
Air Pressure	Mpa	0.4~0.6 Mpa(4~6 kg/cm <sup>2</sup> ) Ø8	Max 0.4~0.6(4~6 kg/cm <sup>2</sup> ) Ø8
Power		AC220V 50/60Hz	AC220V 50/60Hz
Size	mm	630W × 1320D × 770H	730W × 1320D × 770H
Weight	kg	250	300

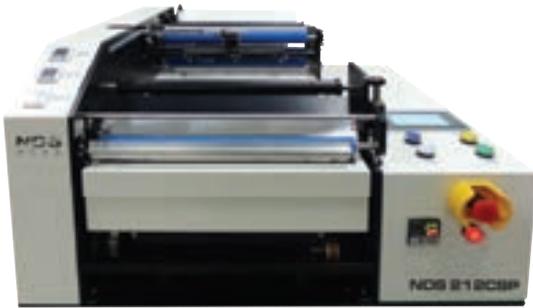
\*Specifications are subject to change without notification.

# NDS 212CSP

Semi-automatic Wafer Mounter

**Applicable to 8, 12 inch wafer**  
**Compact design, Easy operation**

- Desktop design
- Temperature controlled heating system
- Tape tension control



**FOR PRECUT TAPE**

## SPECIFICATIONS

Item	Unit	NDS 212CSP
Air Pressure		<b>0.4~0.6 Mpa (4~6 kg/cm<sup>2</sup>)</b>
Pipe		<b>Ø8</b>
Power		<b>AC220V 50/60Hz</b>
Temperature Range		<b>RT~ 150°C</b>
Size	mm	<b>800W × 930D × 580 H</b>
Weight	kg	<b>150</b>

\*Specifications are subject to change without notification.

# NDS Manual Wafer Mounter 206/208/212CMV

**Applicable to 6, 8, 12 inch wafer**

- Built-in linear roller to avoid dust
- Adjustable pressure to control the roller
- Robust design



**BUBBLE-FREE LAMINATION**

## SPECIFICATIONS

Item	NDS 206/208/212CMV
Workpiece	<b>6"/ 8"/ 12"</b>
Power	<b>AC110V or AC220V 50/60Hz</b>
Pipe	<b>Ø8</b>
Pressure	<b>0.4~0.6 Mpa(4~6kg/cm<sup>2</sup>)</b>

\*Specifications are subject to change without notification.



# NDS 312CFL

Fully-automatic LED UV Curing System

**Fully-automatic UV curing machine for wafer, glass and other materials.**

**Applicable to wafer size from 8" to 12" with cassette for loading, and unloading.**

- Fast curing
- Zero mercury, no ozone, environmentally-safe
- Power saving for standby mode
- Good heat dissipation
- Options: SECS/ GEM, history recording, marking

**UNIFORM IRRADIATION**



## SPECIFICATIONS

Item	Unit	NDS 312CFL
Workpiece	Inch	12/8
Power		Single or three phase 220V 50/60Hz
UV Wavelength	nm	375
Size	mm	760W x 1300D x 1870H
Weight	kg	400
UV Intensity	mW/cm <sup>2</sup>	100~180

\*Specifications are subject to change without notification.



**UNIFORM IRRADIATION**

# NDS 312CSL

Standalone LED UV Curing System

- Compact design
- PLC-controlled
- Equipped with intensity sensor

## SPECIFICATIONS

Item	Unit	NDS 312CSL
Workpiece	Inch	6~12
Power		AC 220V 50/60Hz
UV Wavelength	nm	375
Size	mm	730W x 680D x 1000H
Weight	kg	150
UV Intensity	mW/cm <sup>2</sup>	100~180

\*Specifications are subject to change without notification.

# NDS 312CSM

Low-pressure Mercury Curing System

**Desktop Manual Curing System**

- UV lamp intensity sensor
- Overheating protection
- Lamp lifespan monitor



**LAMP FAULT DETECTION**

## SPECIFICATIONS

Item	Unit	NDS 312CSM
Workpiece	Inch	12/8
UV Wavelength	nm	365
Size	mm	600W x 650D x 230H
Weight	kg	35
UV Intensity	mW/cm <sup>2</sup>	15~18

\*Specifications are subject to change without notification.

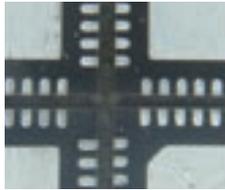


# Resin Bond Blade

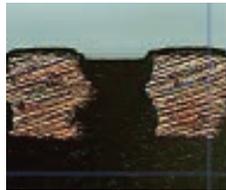


Resin bond blade, with the characteristic of free-cutting and self-sharpening, can efficiently improve cut quality and efficiency on ductile and gummy materials such as QFNs and coppers and on hard-and-brittle materials such as glass and ceramics.

## SELF-SHARPENING



QFN  
50 mm/sec



QFN  
50 mm/sec

- Reduce copper burr and smear on ductile and gummy materials.
- Improve chipping, feed rate, and blade life on hard and brittle materials. Ultra thin blade (over 50um)

## APPLICATION

QFNs, Glass for CIS Modules and Opticals, Ceramics, Quartz for Optical Fiber Communication, Splitter, IR-Cut Filter

## SPECIFICATIONS

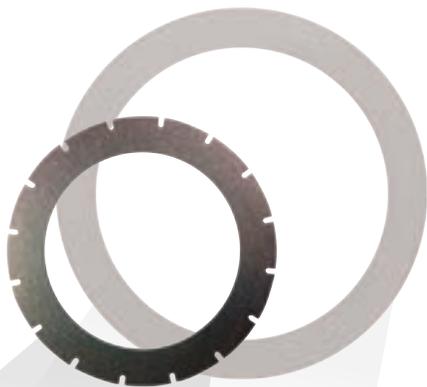
Suggested Max Spindle Speed: 35,000~40,000rpm Max Spindle Speed for Special Resin Bond Blade: 30,000rpm  
Blade thickness 0.09~0.8mm depending on blade formulation

Tolerance /mm

<b>SD</b>	<b>600</b>	—	<b>25</b>	<b>BA</b>	<b>56D</b>	/	<b>0.1T</b>	/	<b>40H</b>
<b>Grit Type</b>	<b>Grit Size</b>		<b>Concentration</b>	<b>Bond</b>	<b>OD</b>		<b>Thickness</b>		<b>ID</b>
SD/SDC/CBN	02/06 #3000 04/08 #2000 05/10 #1500 06/12 #1200 08/16 #1000 10/20 #800 12/25 #700 20/30 #600 30/40 #500 40/60 #400 #325 #270 #230 #200 #170		25~100	BA/BB/BQ/BS	52~76.2 ±0.02		0.05~0.60 ±0.005~±0.020		40 H7
	um Mesh								

# Electro-formed Nickel Bond Blade

SGS



**GOOD QUALITY  
LOW WEAR RATE**

Electro-formed Nickel bond blade, featured by ultra thin, high strength and stiffness, is extremely rigid. It can give high endurance and robust properties during cutting process while maintaining very low blade wearing rate.

- Sophisticated electro-formed technology
- A wide selection of bonds available for various kinds of workpieces.

## APPLICATION

EMC LED, Chip LED, WLCSP, Compound, Silicon, Magnetics, Ceramics, Materials required ultra thin blade.



EMCLED  
80 mm/sec



HPLED  
40/60 DHT 15 mm/sec

## SPECIFICATIONS

Max Spindle Speed: 37,000~38,000rpm  
Blade thickness 0.025~0.3mm depending on blade formulation

Tolerance / mm

<b>20/30</b>	<b>AA</b>	<b>56D</b>	<b>0.1T</b>	<b>40H</b>	<b>1w</b>	<b>2d</b>	<b>16N</b>
<b>Grit Size</b>	<b>Bond</b>	<b>OD</b>	<b>Thickness</b>	<b>ID</b>	<b>Slit Width</b>	<b>Slit Depth</b>	<b>No. of Slit</b>
01/03 #5000 02/04 #4000 02/06 #3000 04/06 #2500 04/08 #2000 05/10 #1500 06/12 #1200 08/16 #1000 08/20 #900 10/20 #800 12/25 #700 20/30 #600 30/40 #500 40/60 #400 #325 um Mesh	DM <i>Soft</i> FB BB AA <i>Hard</i>	49~115 +0.05	0.025~0.25 <0.3 ±0.01 <0.1 ±0.005 <0.04 ±0.003	25.4/40/88.9 H6/H7	0.5mm 1mm 2mm 5mm	1mm 2mm	8N 16N 32N 64N

# Metal Bond Blade

Metal bond blade, sintered and mold pressed under high temp. and pressure, has high rigidity and long blade life. With higher wear-resistance, balanced blade wearing profile, and higher stiffness, the metal bond blades can effectively reduce cutting defects such as slant cut and PKG size/profile issues while providing very long blade life.

- A wide selection of bonds available for various semiconductor packages such as BGAs as well as for glass and quartz cutting
- Ultra thin blade (over 45um).

**HIGH STIFFNESS  
LONG BLADE LIFE**



Glass  
5 mm/sec



Phosphor Film/Sheet  
100 mm/sec

## APPLICATION

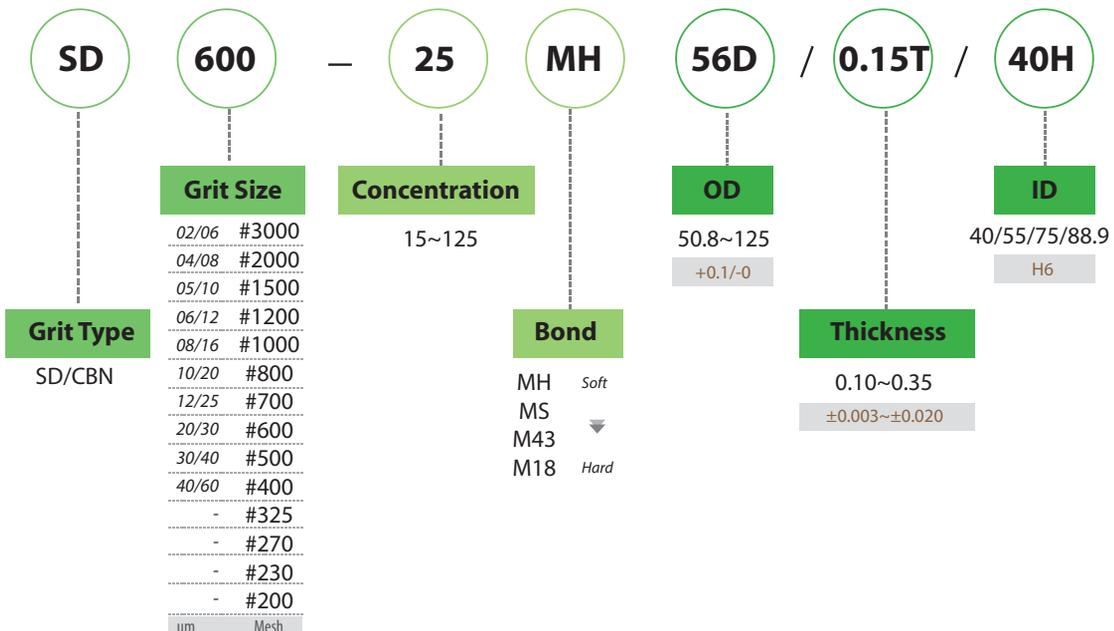
Sapphire, BGAs(BGA, LGA, CSP, SiP, MCP, EMMC, uSD card), Glass for CIS Modules and Opticals, Quartz, MLCC, Ceramics

## SPECIFICATIONS

Max Spindle Speed: 40,000rpm

Blade thickness 0.075~0.35mm depending on blade formulation

Tolerance /mm



# Vitrified Bond Blade

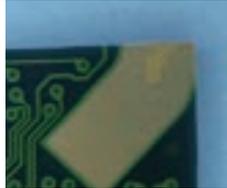
Vitrified bond blade with high rigidity and cutting capability is able to keep the straightness on the entry and exit point and precision of work dimension during high-loading process. Consequently, this kind of blade realizes advanced machining on hard materials such as crystals and sapphires.

- Porous type.
- Realize high quality process on hard materials like Sapphire.

**ELECTRICAL CONDUCTIVITY AVAILABLE**



LED Chip on Board  
6 mm/sec



PBGA Plastic Ball Grid Array Package  
100 mm/sec

## APPLICATION

Hard and Brittle Materials (Crystal, Sapphire, Ceramic)

## SPECIFICATIONS

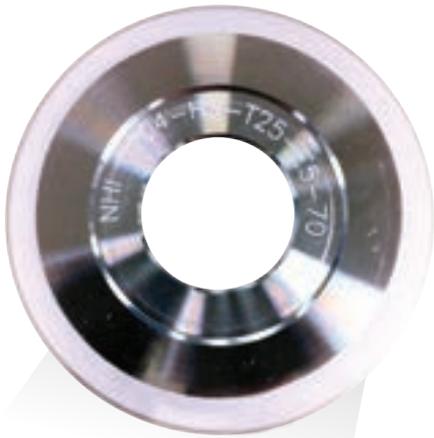
Max Spindle Speed: 30,000~32,000rpm  
Blade thickness 0.01~1mm depending on blade formulation

Tolerance / mm

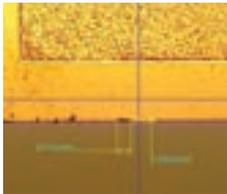
<b>SD</b>	<b>600</b>	<b>J</b>	<b>25</b>	<b>N01</b>	<b>56D</b>	<b>0.15T</b>	<b>40H</b>
<b>Grit Type</b>	<b>Grit Size</b>	<b>Hardness</b>	<b>Concentration</b>	<b>Bond</b>	<b>OD</b>	<b>Thickness</b>	<b>ID</b>
SD/CBN	02/06 #3000 04/08 #2000 05/10 #1500 06/12 #1200 08/16 #1000 10/20 #800 12/25 #700 20/30 #600 30/40 #500 40/60 #400 #325 #270 #230 #200 #170 um Mesh	G~S	25~125	N01~N10	49~125 ±0.02	0.07~0.6 ±0.003~±0.020	25.4/40/88.9 H7

# Hub Blade

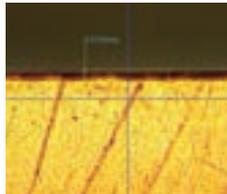
Hub blade is applied on silicon wafer and compound semiconductor wafer cutting. Micrometer electro-formed technology provides higher process quality.



## PRECISION CONTROL

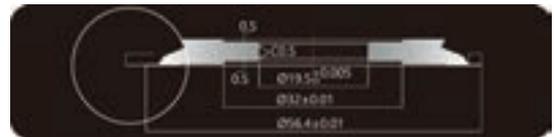


SiC  
5 mm/sec



SiC  
5 mm/sec

- Precise control of diamond distribution.
- Ultra high-speed separation filters for diamond grain in high precision.
- Well-proportioned diamond distribution on surface reduces back side chipping.



## SPECIFICATIONS

0103

HH

L

08

20

P1

### Grit Size

0/3	0003
1/3	0103
2/4	0204
2/6	0206
3/6	0305
4/6	0406
4/8	0408
5/10	0510

um

### Bond

HS	Soft
HM	Standard
HH	Hard
HX	Special

### Concentration

SL	Super Low
L	Low(Soft)
M	Medium
H	Hard

### Kerf

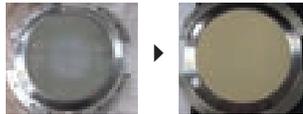
### Exposure

### Specials

# Chuck Table

We customize porous ceramic vacuum tables of various sizes, either in round or square shape, magnetic or non-magnetic.

Short lead time for producing new chuck tables or replacing ceramic. Reliable flatness, good porosity and high accuracy.



**CUSTOMIZE /  
RELIABLE FLATNESS**

# Dressing Board

Functioned to expose diamonds and to improve dicing quality. A wide selection of dressing boards for different applications. High efficiency of dressing and easy operation.



**ENHANCING  
CUTTING EFFICIENCY**

# Precut Board

- Lower the operation time
- Dressing tools for hub blades
- Lower the cost of precutting process

## SPECIFICATIONS

Girt Size	Electro-formed Nickel Bond Blade	Metal Bond Blade	Resin Bond Blade	Vitrified Bond Blade	Hub Bond Blade
<b>WA200</b>	325-400	-	200-230	200-230	-
<b>WA400</b>	400-600	325	270-325	270-325	-
<b>GC600</b>	500-700	400-800	400-500	400-500	-
<b>GC800</b>	700-1000	600-1000	600-700	600-700	-
<b>GC1000</b>	800-1000	800-1300	800-1000	800-1000	-
<b>GC2000</b>	1200-1300	1000-2000	-	-	1700
<b>GC3000</b>	-	-	-	-	1800-3000
<b>GC4000</b>	-	-	-	-	3200-4200
<b>GC5000</b>	-	-	-	-	4200-5000

\*Specifications are subject to change without notification.

**IMPROVING DICING  
PERFORMANCE**

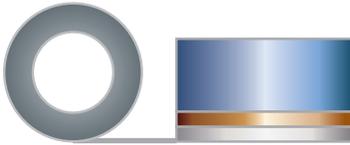
# Heat-Resistant Dicing Tape

HUV-S7000 / D7000



EXCELLENT HEAT-RESISTANT

**HUV-S7000 / D7000 Series, different from usual dicing tapes, uses heat-resistant UV curable adhesives which can endure up to 190°C in the process.**



## HUV-S7000 Series

Single-sided tape with single coated UV curable adhesive



## HUV-D7125-30

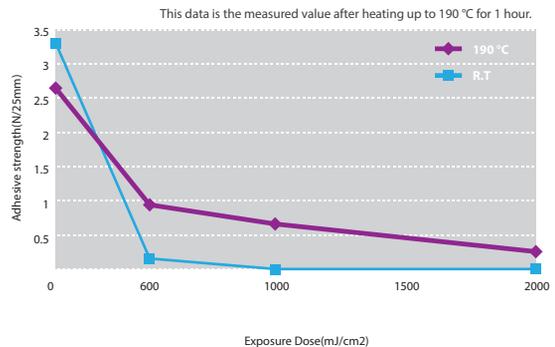
Double-sided tape with double coated UV curable adhesive



## HUV-D7125-30/10

Double-sided tape with one side of non-UV and other side of UV curable adhesive

## TESTING GRAPH



## TESTING CONDITION

- Test specification: HUV-S7050-20A2 (special PET base film 50 um + adhesive layer 20um)
- Test object: Glass
- Peel angle: 180 degree
- Peel speed: 300mm/min



VARIETY OF UV TAPES

# PO Base Tape

Series HUV-S4000

**Single-sided dicing tape with UV cured adhesive. Anti-static types also available.**

## **Soft**

Suitable for the workpiece with gap difference

## **Expandable**

Suitable for die expanding with good mounting performance.

## **Application**

Capacitor / Ceramic /PCB/PPTC/QFN/CCL/LED/Glass ...

# PET Base Tape

Series HUV-S1000 / 3000

**Single-sided and double sided are available with UV cured adhesive.**

**Good detachability after UV irradiation**

## **Less Chipping**

Mainly used on mounted substrate for dicing process with chipping concern.

## **Application**

Glass/ Ceramic

# PVC Base Tape

Series HUV-S5000

**UV/ Non-UV**

**Easy to peel off**

**Expandable**

## **Application**

Wafer / PCB

# Thermal Release Tape

Series STD-D / STE-D / STE-S

The thermal release tape is heated to a certain temperature so that the film of workpiece can be peeled off easily.

## Suitable for temporary fixing

### Customized

One-side thermal release adhesive layer and one-side thermal resistant release type are available upon request.

Item	Specification	Detach Temperature (SUS)	Coated Type	Total Thickness (um)	Base Film material	Base Film Thickness	A/B Adhesive Thickness	A/B Layer Adhesion
STD-D Series	STD-D3100-LHR15/TB35	190°Cx2min	Double	150	PET	100	15/35	0.2/6.5
	STD-D3188-TB35/LHR15	170°C~200°Cx120sec	Double	238	PET	188	35/15	9.5/1
STE-D series	STE-D3050TD-30/30	190°Cx2min	Double	110	PET	50	30/30	6.5/6.5
STE-S Series	STE-S3075TA-30	90°Cx50sec	Single	105	PET	75	30	6.2
	STE-S3100TA-30	90°Cx25sec	Single	130	PET	100	30	7.8
	STE-S3100TC-30	120°Cx25sec	Single	130	PET	100	30	6.5
	STE-S3188TB-35	170°Cx120sec	Single	223	PET	188	35	9.4

\*Specifications are subject to change without notification.

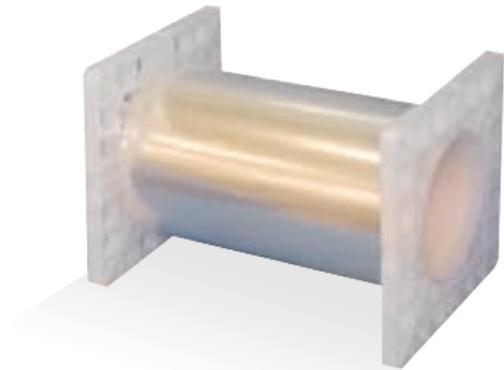
# Chemical Resistant Tape

Series SDC

## Special tape resistant to acid

Part No	Coated Type	Acrylic Type	Total Thickness	Base Film			Adhesive Layer		Adhesive Strength
				Material	Color	Thickness	Material	Thickness	
SDC-S3050T-25PY	Single	non-UV	75	PET	Transparent	50	Acrylic	25	11.8
SDC-S5080VCRT-25PW	Single	non-UV	105	PVC	Transparent	80	Vinyl Chloride	25	1.0

\*Specifications are subject to change without notification.



## SPECIFICATIONS

Product Name		Coated Type	Acrylic Type	Total Thickness	Base Film			Adhesive Layer		Adhesive Strength		Holding Power	Tensile Strength		Tensile Elongation	
Item	Part No				Material	Color	Thickness	Material	Thickness	Before	After		MD	TD	MD	TD
				µm				µm	N/25mm		mm	MPa	MPa	%	%	
<b>HUV-D1000</b>	<b>D1075-10</b>	Double	UV	95	PET	Transparent	75	Acrylic	10/10	7	0.2	0	160	220	300	200
<b>HUV-S3000 Series</b>	<b>S3100-10</b>	Single	UV	110	PET	Transparent	100	Acrylic	10	12	0.2	0	220	280	320	260
	<b>S3100-25</b>	Single	UV	125	PET	Transparent	100	Acrylic	25	20	0.2	0	220	280	320	260
	<b>S3125-20</b>	Single	UV	145	PET	Transparent	125	Acrylic	20	14	0.2	0	280	330	370	240
	<b>S3188-10</b>	Single	UV	198	PET	Transparent	188	Acrylic	10	9	0.2	0	330	380	330	270
	<b>S3188-30</b>	Single	UV	218	PET	Transparent	188	Acrylic	30	20	0.3	0	330	380	330	270
<b>HUV-S4000 Series</b>	<b>S4080-10</b>	Single	UV	90	PO	Clear	80	Acrylic	10	7	0.4	0	40	30	1300	1400
	<b>S4080-20</b>	Single	UV	100	PO	Clear	80	Acrylic	20	11	0.4	0	40	30	1300	1400
	<b>S4080-30</b>	Single	UV	110	PO	Clear	80	Acrylic	30	13	0.4	0	40	30	1300	1400
	<b>S4100-10</b>	Single	UV	110	PO	Clear	100	Acrylic	10	8	0.4	0	50	40	1400	1500
	<b>S4100-20</b>	Single	UV	120	PO	Clear	100	Acrylic	20	11	0.4	0	50	40	1400	1500
	<b>S4100-30</b>	Single	UV	130	PO	Clear	100	Acrylic	30	14	0.4	0	50	40	1400	1500
	<b>S4150-10</b>	Single	UV	160	PO	Clear	150	Acrylic	10	9	0.3	0	30	25	1400	1500
	<b>S4150-20</b>	Single	UV	170	PO	Clear	150	Acrylic	20	11	0.4	0	30	25	1400	1500
	<b>S4150-30</b>	Single	UV	180	PO	Clear	150	Acrylic	30	14	0.4	0	30	25	1400	1500
<b>SUV-S5000 Series</b>	<b>SUV-S5080-10</b>	Single	UV	90	PVC	Transparent	80	Acrylic	10	4.5	0.2	0	-	-	-	-
	<b>SUV-S5080ET-15</b>	Single	UV	95	PVC	Transparent	80	Acrylic	15	3	0.15	0	-	-	-	-
<b>SDC-S5000 Series</b>	<b>S5070B-10</b>	Single	non-UV	80	PVC	Blue	70	Acrylic	10	1.0	-	-	-	-	-	-
	<b>S5080T-15PW</b>	Single	non-UV	95	PVC	Transparent	80	Acrylic	15	5	-	-	-	-	-	-
	<b>S5100HST-25PG</b>	Single	non-UV	125	PVC	Transparent	100	Acrylic	25	20	-	-	-	-	-	-
<b>HUV-S7000 Series</b>	<b>S7050-20A2</b>	Single	UV	70	Special PET	Transparent	100	Heat Resistant Acrylic	20	3	0.2	-	-	-	-	-
	<b>S7125-30A2</b>	Single	UV	155	Special PET	Transparent	125	Heat Resistant Acrylic	30	3	0.2	-	-	-	-	-
<b>HUV-D7000 Series</b>	<b>D7050-20A2</b>	Double	UV	90	Special PET	Transparent	50	Heat Resistant Acrylic	20/20	3	0.2	-	-	-	-	-
	<b>D7125-30A2</b>	Double	UV	185	Special PET	Transparent	125	Heat Resistant Acrylic	30/30	3	0.2	-	-	-	-	-
	<b>D7125-30A2/10</b>	Double	non-UV/UV	165	Special PET	Transparent	125	Heat Resistant Acrylic	30/10 (non-UV)	3/6 (non-UV)	0.2	-	-	-	-	-

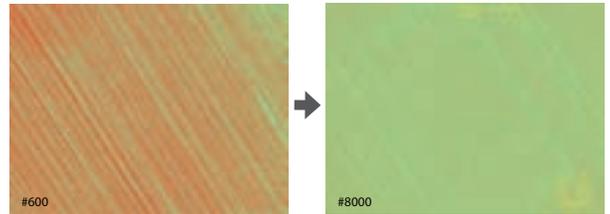
\*Specifications are subject to change without notification.

## SUGGESTIONS FOR UV TAPE STORAGE

- Protected from UV exposure
- Put in storage at 23°C ±5°C and in humidity lower than 70% RH
- Six months shelf life

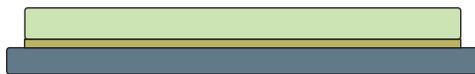


# Grinding Wheel for Si Wafer

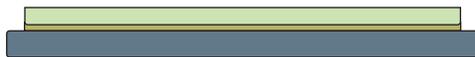


**BEST CHOICE FOR  
WAFER THINNING**

Original: 12" 775um



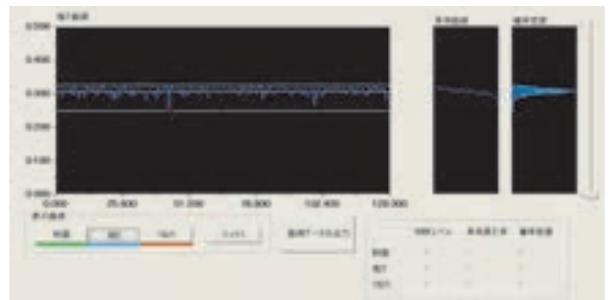
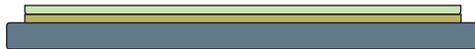
After Coarse Grinding SD400V-SD600V  
Remain Target 120um



After Coarse Grinding SD2000V-SD5000V  
Remain Target 60um



After Fine Grinding SD8000V-SD30000V  
Remain Target 30um



## GRINDING PARAMETERS

Item	Unit	Z1			Z2		
Spindle Speed	rpm	4800			1700		
Worktable Speed	rpm	200	100	100	300	300	300
Feed Rate	um/s	1	3	1	0.3	0.2	0.2

## TEST RESULTS

Unit	Ra	Ry	Rz	Sm	S	tp
um	0.006	0.078	0.052	2.495	2.058	0.000

## GENERAL PROCESSING CONDITIONS

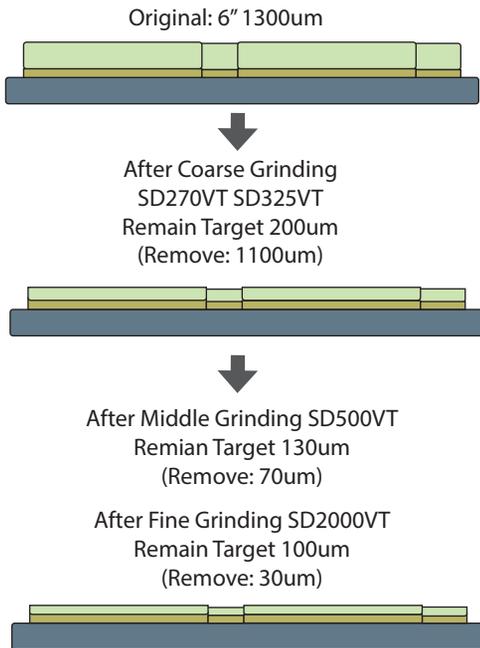
Item	Present Stage
Wafer Size	6" / 8" / 12"
Target Thickness	50um
Feed Rate Process Time	#400-#600: ~100um/min #2000-#5000: 30~50um/min #8000: 20~30um/min #15000: ~20um/min #30000: ~20um/min
Roughness	Ra ≤ 2nm
Wheel Life	> ~5000pcs

\*Specifications are subject to change without notification.

# Grinding Wheel for Sapphire Wafer



**NO NEED TO DO  
INLINE DRESSING**



## High self-sharpening, non-dressing

Traditional sapphire wafer grinding process requires frequent dressing, and it needs to do dressing with every single wafer. However, our special vitrified bonded grinding wheel can continue grinding without any dressing during processing.

## Able to grind the wafer at very high speed feed rate

High performance of wheel sharpness will be realized. Our SD 270VT / SD 325 VT wheel can feed 200um/min and it can reduce much processing time.

## Lower grinding ratio

With our special bond recipe, the grinding ratio of SD270VT and SD325VT is reduced by 10% and the grinding wheels have better wear resistance. Machine idling time and grinding process cost will be decreased.

## Customized grinding wheels for any application

The high torque of spindle and rigidity of equipment for the grinding of sapphire wafer are generally required, so it is necessary to choose appropriate bond for each type of machine. We are able to offer the most appropriate grinding wheel for your machine and processing. We have 3w/4w/5w and long chip type for improving wear resistance. You can choose the most suitable spec wheel from our wide selection of specifications.

## COARSE GRINDING | Center

Vitrified #325 Feed Rate 200um/min

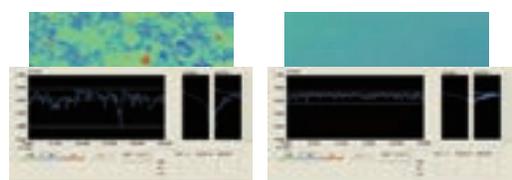


Ra: 218nm

Ra: 20nm

## FINE GRINDING | Edge

Vitrified #2000 Feed Rate 30um/min



Ra: 346nm

Ra: 19nm

# Grinding Wheel for SiC Wafer

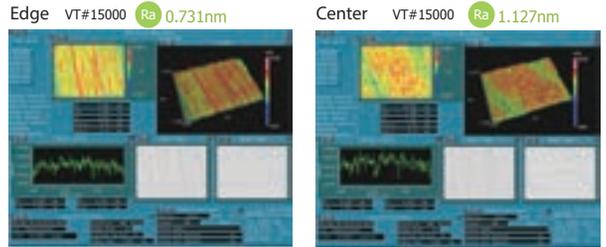
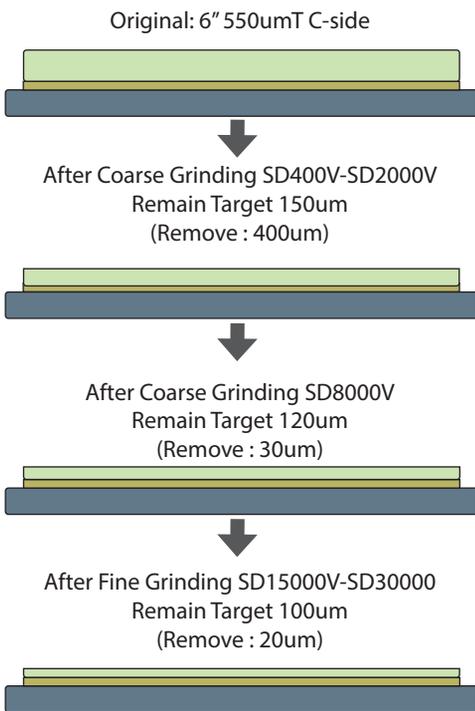


## Vitrified Bond

- Pores Bond Type / High grinding performance is realized.
- The bond hardness can be adjusted finely.
- Super high-speed processing for hard-to-cut materials is realized.



## THINNING SOLUTION FOR HARD-TO-CUT MATERIAL



## GENERAL PROCESSING CONDITIONS

Item	Present Stage
Wafer Size	3" / 4" / 6"
Target Thickness	50um
Feed Rate Process Time	#400: ~100um/min #2000: ~50um/min #8000: ~30um/min #15000: ~20um/min #30000: ~20um/min
Roughness	Ra ≤ 0.5~2nm
Wheel Life	> 1000pcs

\*Specifications are subject to change without notification.

## APPLICATION



- Grinding wheels for all grinding machines.
- Depending on the thickness and roughness required by customers.  
we offer customized grit sizes and recommended process.

## Sapphire

Process	Chip	Grit Size
Fine	<b>3W-17L</b>	<b>#1000-#1500-#2000</b>
Middle	<b>4W/5W-36L/17L</b>	<b>#500-#600-#800</b>
Rough	<b>4W/5W-36L/17L</b>	<b>#230-#270-#325</b>

## SiC

Process	Chip	Grit Size
Fine	<b>3W-17L</b>	<b>#15000</b>
Middle	<b>3W-17L</b>	<b>#8000</b>
Rough	<b>3W/4W-17L</b>	<b>#400-#500</b>

## GaN

Process	Chip	Grit Size
Fine	<b>3W-17L</b>	<b>#15000</b>
Middle	<b>3W-17L</b>	<b>#8000</b>
Rough	<b>3W-17L</b>	<b>#400-#500</b>

## Resin+Cu

Process	Chip	Grit Size
Fine	<b>3W/4W-17L</b>	<b>#2000-#4000</b>
Middle	<b>3W/4W-17L</b>	<b>#2000-#4000</b>
Rough	<b>3W/4W-17L</b>	<b>#2000-#4000</b>

## Si

Process	Chip	Grit Size
Fine	<b>2W/3W-17L</b>	<b>#8000-#15000-#30000</b>
Middle	<b>2W/3W-17L</b>	<b>#2000-#4000-#6000</b>
Rough	<b>2W/3W-17L</b>	<b>#325-#400-#500</b>

## SPECIFICATIONS

