EHWA DIAMOND

SEMICONDUCTOR / DISPLAY / SOLAR & LED

CVD CMP PAD CONDITIONER

CVD (Chemical Vapor Deposition) Diamond Coated Pad Conditioner

CVD PAD CONDITIONER is totally different technology as the conventional disks which is using metal bonding technology such as electroplating or brazing. Diamond is coated on the patterned substrate using CVD technology with customized designs for each CMP process.

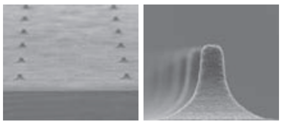
High Technology of CVD Diamond Conditioner

"Engineered quality control"

- Chemical stability : Zero corrosion & metal contamination
- Excellent disk flatness: Uniform tip size & tip exposure
- Working diamond design : PCR & Wafer removal rate tuning by tip size, number, exposure, shape, etc.
- PCR sustainability : consistent PCR over polishing time (Dia. tip size doesn't be changed during CMP process)

Features

- Various patterns can be arranged with CVD diamond coated tips
- Apex of the CVD diamond coated tip is flat face
- Allows to engineer the critical pressure applied to each tip for pad conditioning
- EHWA has a patent on the tip size and number for pad conditioning
- Shape of the apex where contacts with pad has not changed over conditioning time, which result in consistent pad cut rate
- Pad cut rate is constant



Uniform tip arrange & shape

Application

Customized product depending on the customer's process conditions
(Polished material, Pad, Slurry type, etc).

Application	Oxide CMP	W CMP		Cu CMP	
Slurry / Pad	Ceria / Silica base	Bulk	Barrier	Bulk	Barrier
Close cell pad	●	●	●	●	●
Open pores pad	●	●	●	●	●

EHWA DIAMOND IND. CO. LTD.

HEAD OFF. : 374, Nambu-daero, Osan-si,
Gyeonggi-do, 18145, Korea
Tel : (82-31)370-9000
Fax : (82-31)374-9235

SALES DEPT. : Tel : (82-31)370-0500
Fax : (82-31)370-0605

INTERNET : http://www.ehwadia.co.kr
E-MAIL : semi@ehwadia.co.kr

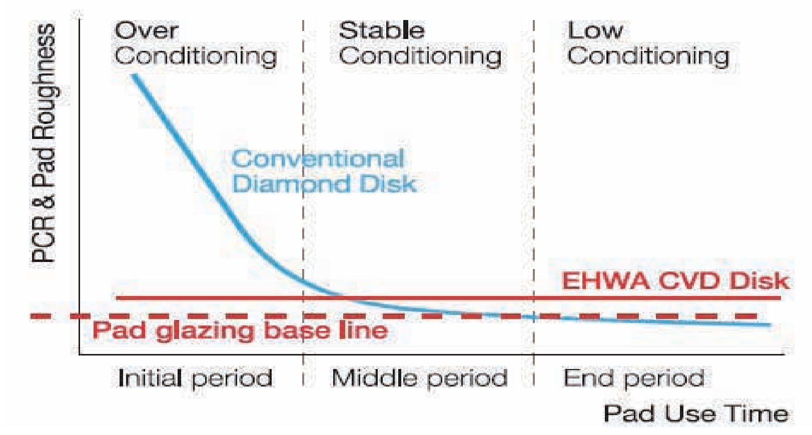
Printed by Ehwa Diamond. 01 / 2017

Product Standards of EHWA CVD CMP Pad Conditioner

Contents	Values
Out diameter	2inch ~ 5inch
Tip sizes	Free over 5㎛
Tip numbers	Free under 30,000ea/disk
Tip height	Free under 100㎛ (Decision by tip size)

Performance

Conventional diamond disk shows a significant change of PCR and Pad roughness conditioning time, but CVD disk maintains constant PCR and Pad roughness because the shape & size of tip do not change.



Conditioning	Conventional Disk	CVD Disk
Over Conditioning (Initial period)		
Stable Conditioning (Middle period)		
Low Conditioning (End period)		

EHWA DIAMOND

SEMICONDUCTOR / DISPLAY / SOLAR & LED

EHWA DIAMOND IND. CO. LTD.

HEAD OFF. : 374, Nambu-daero, Osan-si,
Gyeonggi-do, 18145, Korea
Tel : (82-31)370-9000
Fax : (82-31)374-9235

SALES DEPT. : Tel : (82-31)370-0500
Fax : (82-31)370-0605

INTERNET : http://www.ehwadia.co.kr
E-MAIL : semi@ehwadia.co.kr

Printed by Ehwa Diamond. 01 / 2017

EHWA®

EHWA DIAMOND

SEMICONDUCTOR / DISPLAY / SOLAR & LED

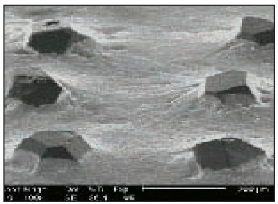
CMP PAD CONDITIONER

Advantages

- · Strong diamond holding force : Chemical reaction + Mechanical contact
- · Corrosion resistance : Carbide interface between diamond & bond material
- · Longer lifetime : Utilization of edges by diamond face
- · Maximized diamond chip pocket by high diamond exposure
  → Excellent conditioning efficiency and pad debris removal rate

Applications

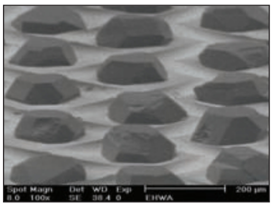
	Polished materials
New BSL type (Double metal layer)	· Oxide CMP : BPSG , TEOS , PSG · Metal CMP : Al , W , Cu · STI , PGI , Poly-si , TSV CMP → Cu, Poly-Si
Electroplating type	



New BSL type

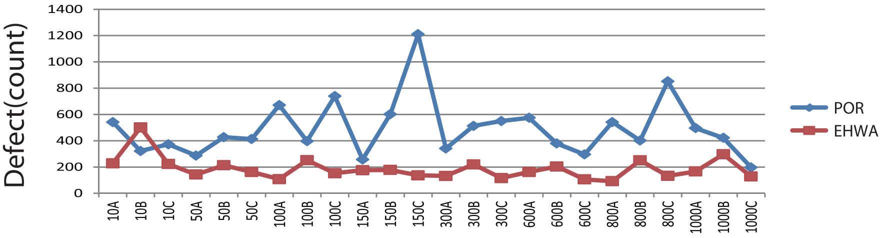
Available Product Spec.

Machines (model)	Pad cut rate
· AMAT (Mirra/Reflexion) · Ebara (F-Rex200/300 , EPO-222(H)) · Novellus (Auriga, CMP200/300, Avantgaard 776 (676) , Momentum) · Strasbaugh (6DS-SP , 6ED) · Lam (Teres) , etc.	10 ~ 300 um/hr



Electroplating type

Performance Data



EHWA DIAMOND IND. CO. LTD.

HEAD OFF. : 374, Nambu-daero, Osan-si,
Gyeonggi-do, 18145, Korea
Tel : (82-31)370-9000
Fax : (82-31)374-9235

SALES DEPT. : Tel : (82-31)370-0500
Fax : (82-31)370-0605

INTERNET : http://www.ehwadia.co.kr
E-MAIL : semi@ehwadia.co.kr

Printed by Ehwa Diamond. 01 / 2017

EHWA DIAMOND

SEMICONDUCTOR / DISPLAY / SOLAR & LED

SILICON AND SAPPHIRE WAFER EDGE GRINDING WHEEL

Advantages

- Various groove shapes can be designed.
- Grinded with uniform chamfer width (excellent rigidity)
- Strong groove shape retention.
- Product 1ea enables multi-stage grinding (rough / fine grinding)

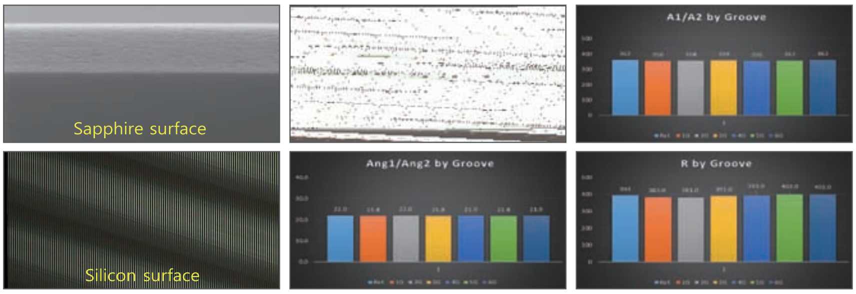
Application

- Silicon and sapphire wafer edge grinding

Available Product Spec.

Type	Diameter	Groove	Thickness	Grit Size	Groove
MD-DW	Φ 3.9	5G	5 ~ 20mm	#325 ~ #3000	5G
MD-1FF6Y	Φ 202	8G	5 ~ 20mm		8G

Performance Data



EHWA DIAMOND IND. CO. LTD.

HEAD OFF. : 374, Nambu-daero, Osan-si,
Gyeonggi-do, 18145, Korea
Tel : (82-31)370-9000
Fax : (82-31)374-9235

SALES DEPT. : Tel : (82-31)370-0500
Fax : (82-31)370-0605

INTERNET : http://www.ehwadia.co.kr
E-MAIL : semi@ehwadia.co.kr

Printed by Ehwa Diamond. 01 / 2017