

SAPPHIRE WAFER BACK GRINDING WHEEL



Technology

- Leading technology in various types of machines and applications
- Rough wheel (metal bond) : Long life time and excellent bulk removal rate
- Fine wheel (vitrified bond) : Superior grinding ability and roughness
- Providing proper wheel designs for various grinding methods and proper recipes

Application

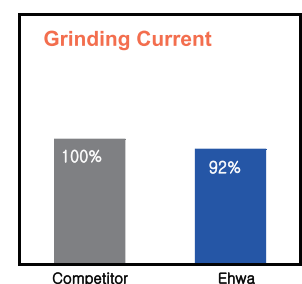
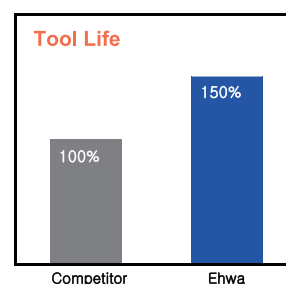
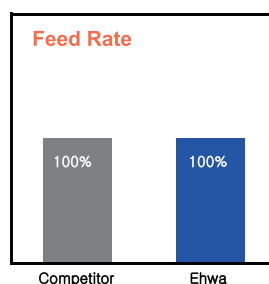
- Sapphire wafer
- SiC wafer
- Glass wafer
- High hardness material (Ex. zirconia)

Specifications

Process	Bond	D (mm)	W (mm)	X (mm)	Grit Size	Tip Shape
Rough	MX, MS Series	200~300	3~5	3~10	#170~#500	Slant, Segment
Fine	MS Series VSP, VSBT Series				#600~#5000	

2~4" Sapphire Wafer (Wax Bonding System)

1) Grinding Wheel (#270-MX)



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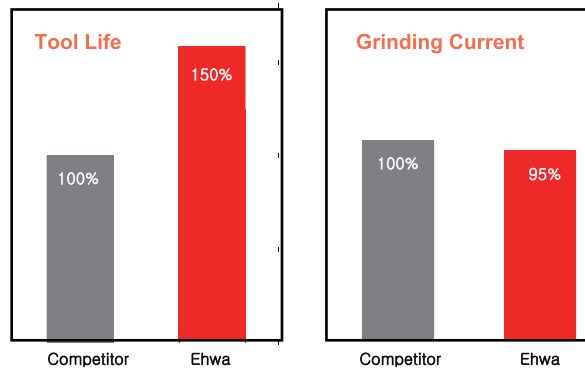
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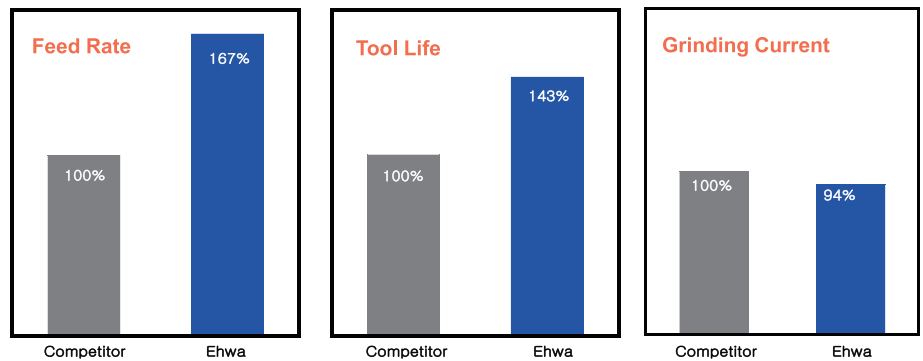
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2) Grinding Wheel (#400 – MX)

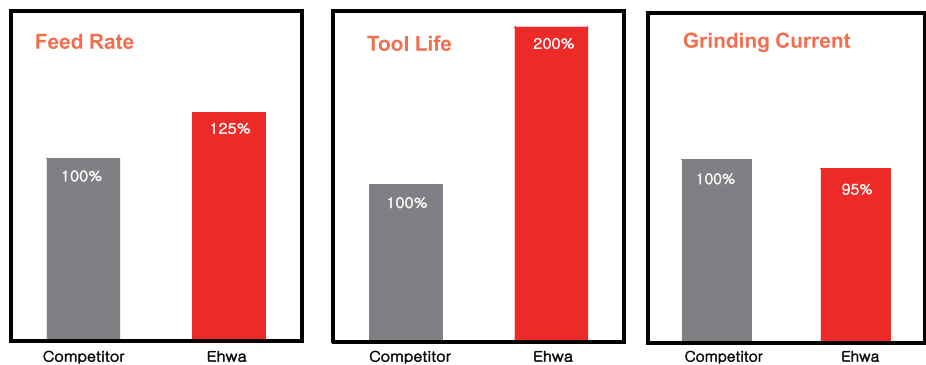


4" sapphire Wafer (Wax Bonding System) for Fully Automatic

1) Rough Grinding Wheel (#325-MX16)

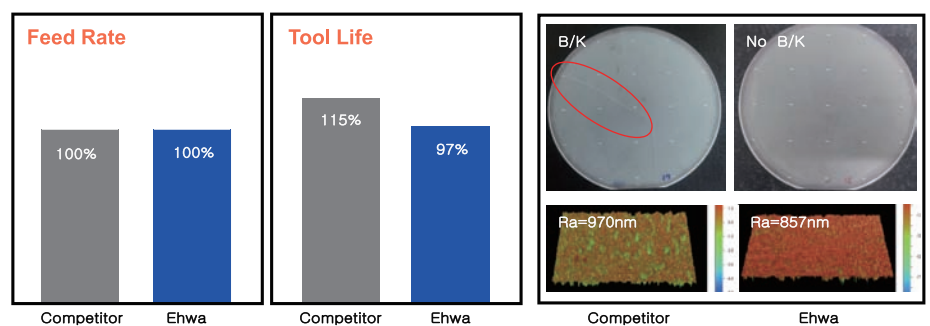


2) Fine Grinding Wheel (#1200-VSP)



6" sapphire Wafer (Tape Bonding System) for Fully automatic M/C

1) Rough Grinding Wheel (#270-MX)





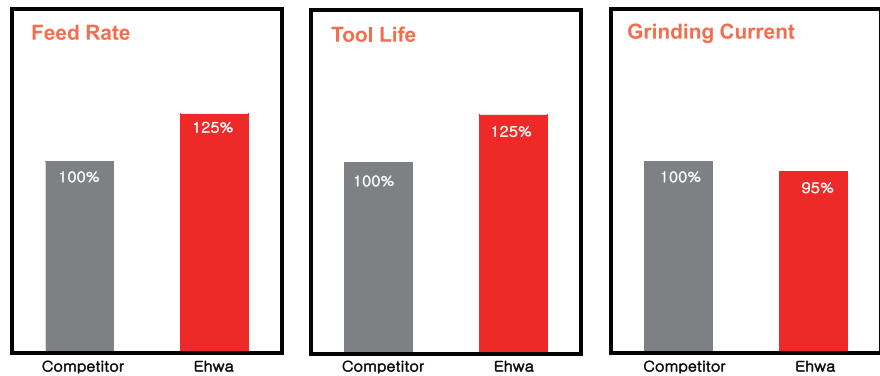
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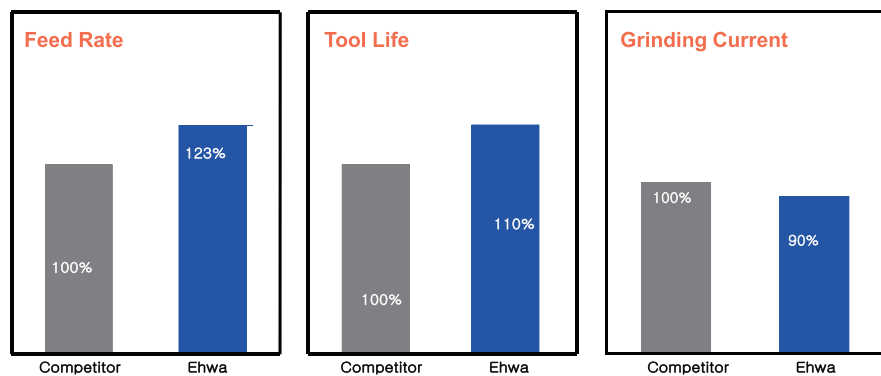
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2) Fine Grinding Wheel (#1200-VSP)

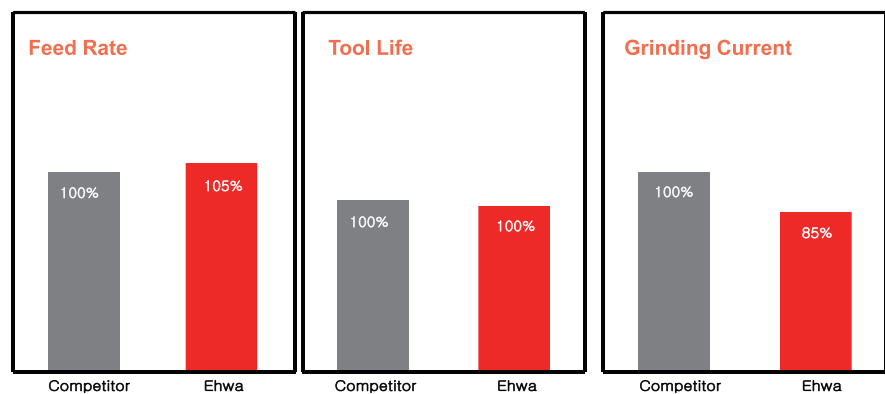


8" Ceramic Wafer (tape Bonding System) for Fully Automatic

1) Rough Grinding Wheel (#325-MX)



2) Fine Grinding Wheel (#1000-MF)



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

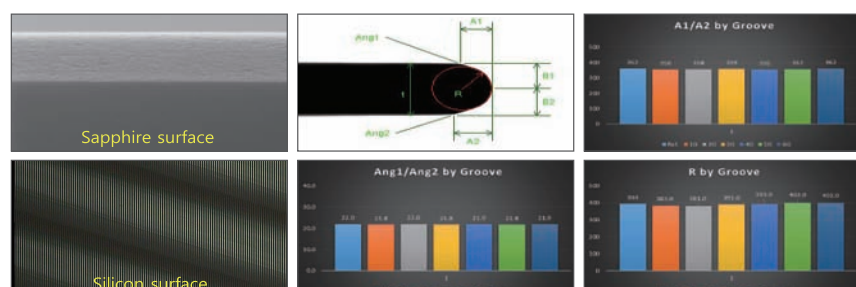
- Silicon and sapphire wafer edge grinding



Available Product Spec.

MD-DW	Φ 3.9	5G	5 ~ 20mm	#325 ~ #3000	5G
MD-1FF6Y	Φ 202	8G	5 ~ 20mm		8G~10G

Performance Data



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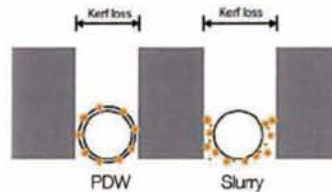
PRECISION DIAMOND WIRE (PDW)



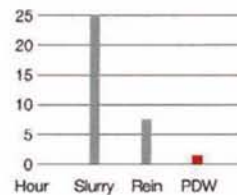
Advantages

- High throughput & Superior cutting quality
 - Reduced process lead time and kerf loss
 - Enhanced flatness of cut materials and superior Warp, TTV and Bow values
- Applicable for thin wafer slicing - through uniform diamond grit
- Longer wire lifetime - Excellent diamond retention & no wire breakage
- Faster cutting speed - 3~10 times compared with slurry process
- Low cost and eco-friendly - Slurry free process

■ Minimized kerf loss comparing to conventional method



■ Process time



For Silicon

For silicon slicing application, EHWA provides diamond wire in as 50um along with 120um. In realizing minimized kerf loss and superior cutting quality for high yield and utilization of thin wafer process, EHWA PDW will be the only solution.

EHWA PDW is easily adapted to other cutting systems in wider industries that would replace conventional cutting methods meeting customers' requirements for cutting quality and expectations for high throughput and cost savings

■ Squaring



PDW Order code | 300-D50
250-D50

■ Slicing



PDW Order code | 90-D35

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For Sapphire

EHWA PDW is widely accepted in slicing and cropping process for 2", 4" and 6" sapphire wafer preparation and it is expanding its presence in 8" sapphire wafer preparation process. Compared to Resin-coated diamond Wire, EHWA PDW has better thermal stability, longer lifetime and allows fast cutting time resulting in high throughput.

SPECS for PDW

	core material ¹⁾			diamond size (um)	kerf loss(um)	concentration ³⁾ & spool ⁴⁾ availability
	Order Code	diameter (Φ,um)	WBS (N) ²⁾			
Mono-/Poly-Si Wafering	70-D10	70	18	8~12	80~90	We can provide wire according to the customer's request
	80-D12	80	21	8~16	90~100	
	90-D12	90	23	8~16	100~110	
	120-D15	120	40	10~20	140~145	
Sapphire Ingot Wafering	160-D35	160	65	30~40	220~240	
	180-D35	180	85	30~40	235~255	
	180-D45	180	85	40~50	245~255	
	200-D35	200	110	30~40	260~280	
Si Squaring/ Sapphire Cropping	250-D35	250	180	30~40	310~330	
	250-D50			40~60	340~360	
	300-D50	300	240	40~60	390~410	

1) high-quality piano wire, 2) wire breaking strength

3) low, middle, high concentration with continuous quality

4) lengths to 5, 10, 20, 30km, 50km, +100km

