

Periphery wheel
For inserts



Top & bottom wheel
For inserts



Top & bottom wheel
For inserts

EHWA industrial diamond wheels are widely used to grind various cutting tools. The cutting tools are classified by raw material type, such as high speed steel, carbon steel, ceramics, carbide, and PCD/PCBN tools, and EHWA products are often used to grind cemented carbide tools whose main raw material is tungsten.

Diamond grinding wheels for

Cutting tools



Hybrid wheel pack
For rotating tool



Precision wheel pack
For mirco rotating tool



Tool grinding wheel
For tip saw

Cutting tools

Insert · periphery wheel, top & bottom wheel



Periphery wheel
For insert



Top & bottom wheel
For insert

■ Insert grinding wheel

EHWA manufactures a full line of insert grinding wheels for carbide, ceramic, cermet and PCD/PCBN materials. These wheels are designed with the optimal specifications considering the cycle time and dressing intervals for optimum productivity. Their grinding performance is excellent, therefore, they produce uniform inserts with a superior finish and chip-free edge.

| Periphery grinding |

- Shorter cycle time by high feed rate
- Small chip size
- Longer dressing intervals
- Machine : Agathon, Wendt, Waida, Ewamatic and Ewag

| Top & bottom grinding |

- Shorter cycle times
- Longer dressing intervals
- Improved dimensional stability
- Machine : Stahli, Peter Wolters, Wendt WBM, Agathon T&B and Fujisanki

| Bond table by application |

Product		Low content → High content			
Periphery	PCD PCBN	Bond hardness weak		VDGF VHGN	Bond hardness strong
		High performance resin			Hybrid
	Carbide			BXT SA2	XA20 BMX series
	Cermet Ceramic	BXB	BXC	SA4	RM series
Top & bottom		Standard resin		High performance resin	
	Carbide Cermet Ceramic		B32	BQ / BG BXCM	BXS4 SA5
		B26			



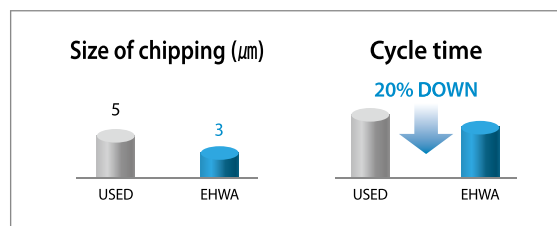
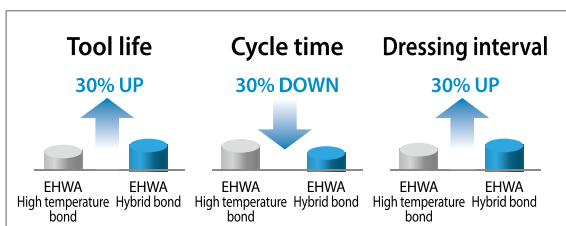
Workpiece - Insert

■ Periphery grinding

High temperature polyimide bond is commonly applied for periphery grinding. Recently, hybrid and soft-metal bonds are the new trend for reduced cycle time, smaller chip size, and better dimensional stability and productivity.

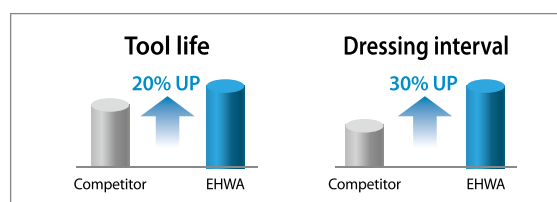
- **Machine** : Wendt 715 WAC Quattro
- **Workpiece** : Carbide insert
- **Wheel speed** : 20 m/s
- **Wheel spec** : RD-11A2, 400D-39T-10W-6X-355.06H
- **Bond** : D46 High temperature resin bond & D40 Hybrid bond

- **Machine** : Agathon
- **Workpiece** : PCBN Insert
- **Wheel speed** : 18 m/s
- **Wheel spec** : VD-11A2, 400D-39T-15W-6X-355.06H
D6M120VHGN



■ Top & bottom grinding

- **Machine** : Wendt WBM221-Duo Lift
- **Wheel** : RD-2A2T, 501D-5X-40W, D126BXS4
- **Workpiece** : Various carbide inserts
- **Oil coolant**



Cutting tools

Rotating tool



Hybrid wheel pack
For rotating tool



Precision wheel pack
For micro rotating tool

■ Polyimide bond

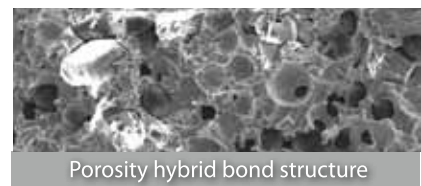
Thermal stability of polyimide bonds is better than phenol or epoxy bonds, therefore, their grinding performance and wheel life are better than phenol and epoxy bonds.

■ Hybrid bond

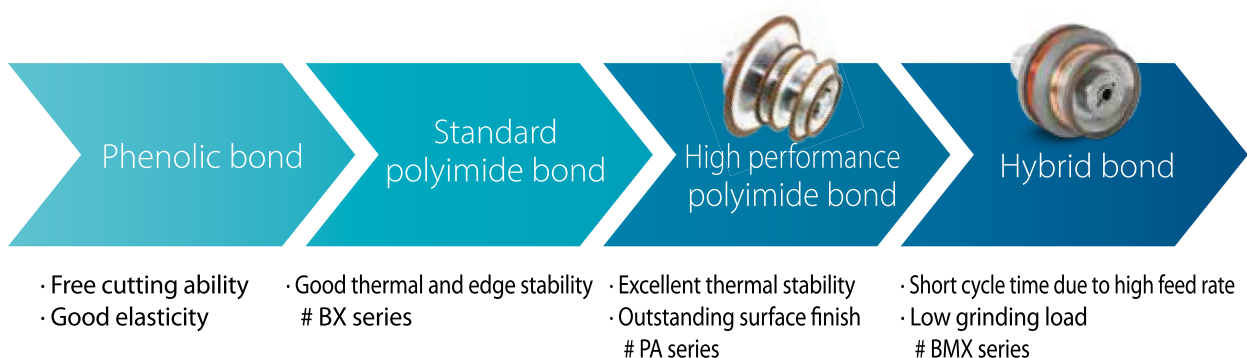
Hybrid bond, a combination of polyimide and metal bond, are able to meet more challenging requirements as this bond has the best advantages of both polyimide and metal bond :
Polyimide's good grinding performance and elasticity and metal bond high wear resistance and high thermal stability.

■ Porosity hybrid bond

This pore structure helps diamond protrusion and makes coolant flow easily. It also lowers the grinding load, and thereby increases the max allowable feed rate, which reduces cycle time.



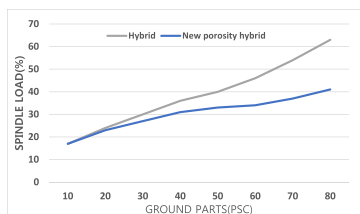
Porosity hybrid bond structure





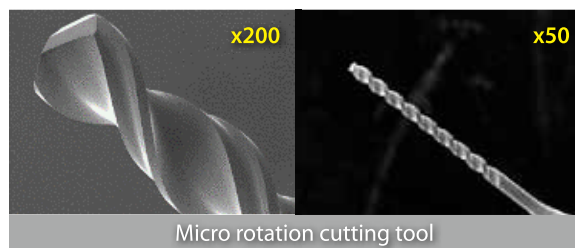
Drill & endmill

- **Machine** : ANCA FX7(19kW)
- **Material** : Carbide Φ 12–50mm(LOF), 2 Flutes (K10)
- **Wheel speed** : 18 m/s
- **Feed rate** : 120 mm/min
- **Depth of cut** : 2.4 mm



Precision cutting tool

- High Productivity at the lowest tool cost
- Greatly improved surface and edge quality
- Accurate edge stability



Tap



| Specification |

Type	
VB-1A1 (grinding)	R/D-RR(dressing)

Rotary burr



| Specification |

Type	Specification	Bond
MD-1V1	110D ~ 160D / 30V~60V	ME4 series

Cutting tools

Circular tip saw / hob cutter / broach



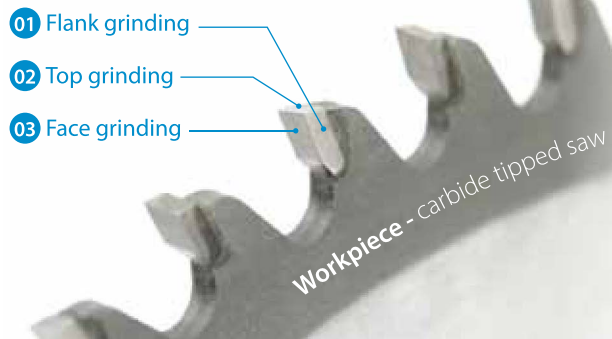
Tool grinding wheel
For circular tip saw



■ Circular tip saw

| Advantages |

- Longer life time
- Shorter cycle time
- Fine surface finish
- High dimensional stability



Workpiece - carbide tipped saw

01 Flank grinding



02 Top grinding



03 Face grinding



Workpiece high speed steel saw blade

Profile grinding





| Profile grinding of high speed steel saw blade |

• Wheel specification : RB-14F1/S, CBN107

Type	D	x1	x2	U	Bond type
RB-14F1/S	150	6	8	1,1.3, 1.6, 2, 2.5	Hardend resin bond
		6	10	3	
		8	12.5	3.5	
	200	8	12.5	4	
		10	15	5, 6	
		6	8	1, 1.3, 1.6, 2, 2.5	
	200	6	10	3	
		8	12.5	3.5	
		8	12.5	4	
		10	15	5, 6	

■ Hob cutter



■ Broach

