SUPERABRASIVE
GRINDING WHEELS FOR STEEL ROLL

- RESINOID BOND CBN WHEEL
- METAL BOND CBN WHEEL
- VITRIFIED BOND CBN WHEEL
**EHWA Superabrasive CBN**

- Suitable for grinding difficult-to-cut materials
- Cycle time reduction: High grinding efficiency compared to conventional abrasive wheels
- Longer Tool Life: Around 5-10 times longer than conventional abrasive wheels
- Superior surface finish: Consistent grinding ability and shape retention for a long period of time
- High production efficiency by longer tool life and shorter cycle time: Production automation
- Eco-friendly grinding: Almost free of scraps and wastes

**Superabrasive CBN Characteristics**

![Hardness Comparison](chart1)

![Tool Life](chart2)

**EHWA Superabrasive CBN**

Surface finish after grinding

![Conventional abrasive wheel](wheel1)

![CBN wheel](wheel2)
EHWA Resinoid bond CBN wheel Characteristics

Resin bonded wheels are composed of thermosetting resin such as phenolic resin and polyimide. By using various fillers, it is able to design the wheels with different adhesion. It is widely used due to easier truing and dressing than other bonds. Also, its excellent grinding ability allows to obtain good surface finish.
EHWA Metal bond CBN wheel Characteristics

Metal bonded wheels use metallic powders as a binder. It is excellent in form maintenance and wear resistance. Mainly based on Cu and Sn, EHWA has various metallic powders to design the optimal wheel for each application. Metal bonded wheels can be designed in complicated profile for high precision grinding. Also, it shows good performance in grinding steel rolls for rolling and other processes.

**Wheel Size**
MD-14FF1, 200D-20T-15U-9R-3X-127H

**Wheel Specification**
D120L100MA

**Workpiece**
Carbide Roll

**Material**
Tungsten Carbide
Vitrified bond, also called ceramic bond, has high bonding strength, hardness and rigidity. Vitrified bonded wheels have pores that allow the wheels to have good grinding ability. EHWA designs the most suitable wheel for each application by adjusting pores and bond structure.

**Grinding Condition**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock Removal</td>
<td>0.45~0.60 mm</td>
</tr>
<tr>
<td>Vs (Wheel Speed)</td>
<td>30~36 m/s</td>
</tr>
<tr>
<td>Vw (Work)</td>
<td>25~30 rpm</td>
</tr>
<tr>
<td>Table Feed</td>
<td>2300~2800 mm/min</td>
</tr>
<tr>
<td>Distance Infeed</td>
<td>10~20 μm</td>
</tr>
</tbody>
</table>
# Resin bond for Roll grinding

<table>
<thead>
<tr>
<th>Bonding strength</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA – BG – BC</td>
<td>75 – 100 – 125</td>
</tr>
</tbody>
</table>

## Characteristics
- **Grinding Ability**: ★★★★★
- **Tool Life**: ★★

## Bonding name
- BA: Good surface
- BG: General
- BC: High tool life

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# Metal bond for Roll grinding

<table>
<thead>
<tr>
<th>Bonding strength</th>
<th>Concentration</th>
</tr>
</thead>
</table>

## Characteristics
- **Grinding Ability**: ★★★★
- **Tool Life**: ★★★

## Bonding name
- MA: General
- MB2: General
- MG: High tool life

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# Vitri bond for Roll grinding

<table>
<thead>
<tr>
<th>Bonding strength</th>
<th>Concentration</th>
</tr>
</thead>
</table>

## Characteristics
- **Grinding Ability**: ★★★★
- **Tool Life**: ★★★

## Bonding name
- VB: General
- VBT: High federate
- VE: High tool life
EHWA diamond tools serve as a promoter of globalization

Since 1975, EHWA DIAMOND has been growing by developing long-term partnerships with customers worldwide and across the industries. EHWA is tirelessly striving to provide the very best customer satisfaction through continuous product innovation and world class service.