HUNAN REAL TECH SUPERABRASIVE&TOOL CO.,LTD.
CBN/PCBN Turning Inserts For Roller Turning Application

www.cbninserts.com
Sales@cbninserts.com
We successfully controlled the CBN inserts technology from design, manufacture to application, our CBN tools made innovative enhancement on anti-shock resistance.

Our solid CBN insert and do rough and finish working for hardened steel, High Cr (Chrome), High Ni and HSS, can work in interrupted cutting condition for hardened materials with high cutting efficiency; cut many cast iron materials with high cutting speed, take for example, to cut hardened steel gear at 100m/min, to cut grey cast iron surpass 2000m/min.

Our solid CBN inserts and tipped CBN inserts work well on Metallurgy roller in domestic and foreign markets.

Hunan Real Tech CBN/PCBN Inserts

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Workpiece: Casting High Ni&Cr; HSD80 (HRC60)
CBN: RNMN 120700 S02025
Vc=25m/min, ap=9mm, f=0.5mm/r
Tool life: 120min
Workpiece: chilled cast iron HSD67 (HRC50)
Vc=66m/min, ap=2mm, f=0.5mm/r

Our insert turning efficiency is 2 times than other carbide insert. Tool life is 3 times higher.

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Turning high alloy roller-solid CBN inserts

Workpiece: 34CrNiMoA HRC62  
CBN insert: RNUN200700  
$V_c=52\text{m/min}$, $a_p=3\text{mm}$, $f=0.6\text{mm/r}$

Our insert turning efficiency is 4 times than other alloy insert.  
Cost is only 50%

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CBN inserts for fine turning roller

Workpiece: 70Cr3Mo HSD75 (HRC56)
Vc=56m/min, ap=1mm, f=0.3mm/r

Our insert turning efficiency is 2 times than other carbide insert with coating. Our insert life is doubled than others.

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CBN inserts for rough turning semi-HSS Roller

Workpiece: Semi HSS; Hardness: HRC63
Vc=30m/min, ap=2mm, f=0.5mm/r

Our insert turning efficiency is 50% than other carbide insert. Our insert life is doubled than others.

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Ever since we use CBN inserts from Hunan Real Tech Superabrasive & Tool Co., Ltd. We enhanced 3-5 times of turning efficiency. Operators in our workshop all think this brand insert life is very long, anti shock resistance, good thermal resistance.

Customer’s Feedback

Workpiece: HSS roller
Hardness: HRC63
Vc=26m/min,
ap=2mm,  f=0.5mm/r
Tool life: 60min
Hunan Real Tech CBN inserts for Tungsten Carbide Roller Turning

Workpiece: Carbide Roller Hardness: HRA88

Vc=15m/min, ap=1mm, f=0.3mm/r

50% higher turning efficiency while tool life is double than imported tool brand

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Workpiece: Hi-Ni&Hi-Cr alloy cast iron
Workpiece hardness: HSD63 (HRC47)
CBN insert: RNMN201000 S02020
Vc=100m/min, Ap=2mm, f=0.3mm/r
Insert life: 100min

Hunan realtech CBN insert cutting life is 20% higher than a well-known brand, life is 3 times than their insert.

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Workpiece: Hi-carbon semi-steel
Workpiece hardness: HSD67 (HRC50)
Vc=66m/min, ap=0.5mm, f=0.3mm/r

Hunan RealTech CBN insert cutting life is 2 times than carbide inserts, life is 3 times than carbide insert.
CBN inserts for maintenance of alloy chilled Roller

Workpiece: alloy chilled cast iron;
Workpiece hardness: HSD68
$V_c=80\text{m/min}$, $a_p=0.5\text{mm}$, $f=0.3\text{mm/r}$

Hunan RealTech CBN insert cutting life is 2 times than carbide inserts, life is 5 times than carbide insert.

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Workpiece: Steel base carbide GW30
Hardness: HRC67
Vc=16m/min, ap=0.5mm, f=0.5mm/r

Hunan RealTech CBN insert cutting life is 2times than carbide inserts, life is 4 times than carbide insert.

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Workpiece: HSS; Hardness HRC64  
$V_c = 40\text{m/min}$, $a_p = 0.5\text{mm}$, $f = 0.5\text{mm/r}$

Hunan RealTech CBN insert cutting life is 50% higher than ceramic inserts, life is 3 times than ceramic insert.
Carbide Roller Ring Turning

Workpiece: Tungsten Carbide
Hardness: HRA88
Vc=20m/min, ap=0.5mm, f=0.3mm/r

Hunan RealTech CBN insert cutting life is 50% higher than a foreign well-known brand inserts, life is 2 times than ceramic insert.

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## Solid CBN Inserts and Tipped CBN Insert Roller turning parameters

<table>
<thead>
<tr>
<th>Roller Material</th>
<th>Roller Workpiece Hardness</th>
<th>Cutting Parameter Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Casting High Ni and High Cr roller</td>
<td>HSD72-82</td>
<td>Rough: Vc=15-30m/min ap=3-7mm f=1-2.5mm/r</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Semi-finish: Vc=20-40m/min ap=4mm f=1.5-2.5mm/r</td>
</tr>
<tr>
<td>2. Casting High Cr Ferrite roller</td>
<td>HSD72-78</td>
<td>Rough: Vc=10-20m/min ap=3-7mm f=0.50-1.2mm/r</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Semi-finish: Vc=15-30m/min ap=4mm f=1.5-2.5mm/r</td>
</tr>
<tr>
<td>3. Casting HSS (high speed steel) roller</td>
<td>HSD82-90</td>
<td>Vc=5-15m/min ap=3-8mm f=1-2.5mm/r</td>
</tr>
<tr>
<td>4. Casting Semi steel roller</td>
<td>HSD55-65</td>
<td>Vc=30-60m/min ap=4mm f=1.5-.5mm/r</td>
</tr>
<tr>
<td>5. Semi steel roller with high carbon</td>
<td>HSD65-72</td>
<td>Vc=25-50m/min ap=4mm f=1.5-2.5mm/r</td>
</tr>
<tr>
<td>6. Chilled cast iron roller</td>
<td>HSD50-70</td>
<td>Vc=25-50m/min ap=4mm f=1.5-2.5mm/r</td>
</tr>
<tr>
<td>7. Cast high Cr steel roller</td>
<td>HSD68-75</td>
<td>Vc=20-45m/min ap=4mm f=1.5-2.5mm/r</td>
</tr>
<tr>
<td>8. Tungsten Carbide roller</td>
<td>HRA88</td>
<td>Vc=10-15m/min ap=1mm f=0.3-0.7 mm/r</td>
</tr>
<tr>
<td>9. Casting9Cr2Mo</td>
<td>HSD92-105</td>
<td>Vc=10-25m/min ap=1mm f=0.5-1.2 mm/r</td>
</tr>
</tbody>
</table>

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