湖南锐特超硬材料工具有限公司
HUNAN REAL TECH SUPERABRASIVE&TOOL CO.,LTD.
CBN Tools For Automotive Industry Application

www.cbninserts.com
Sales@cbninserts.com
Machining Material:  QT200  
Hardness:  HB190-220  
CBN inserts: Solid CBN Inserts  
SNGN 120408 S02020  
Vc=1799m/min  
ap=0.50mm  
f=4298mm/min  
Duration:  
80pcs/insert,T=49pcs/sec  
Surface Roughness:Ra1.6μm

Precision Milling for cylinder block

Our Solid CBN inserts show the same performance as foreign brand inserts

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Automotive Gear Box

Machining Material: QT200
Material hardness: HB210
Vc= 667 m/min
ap=1~3mm
f=1600 mm/min
Surface Roughness: Ra1.6 μm

Precision Milling The Gear Box

Our CBN insert milling efficiency is the 3 times compare with carbide inserts, Tool life is 8 times of the carbide inserts

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For Brake Disk Turning

Machining Material: HT200
Material Hardness: HB190-200
CBN insert: CNMN 120712
Vc=450~620m/min
ap=1mm, f=0.5~0.8mm/r
Ra3.2μm
Tool Life: 150pcs/edge

Our CBN inserts life is 4 times longer than foreign brand carbide coating inserts, enhance 75% working efficiency at the same time.

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Machining Material: HT200
Hardness: HB190-200
Workpiece Size: D250~D400
Insert: CNMN 120404
Vc=776m/min
ap=0.20mm
f=0.15mm/r
Ra1.6μm
Tool life: 100pcs/edge

Our CBN inserts life is 4 times compare with the foreign brand carbide coating inserts, enhance 3 times working efficiency.

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Turning Automotive Brake Drum

Workpiece: QT450
Hardness: HB230
Workpiece Size: D419X230
Insert: WNMN080412 S03020
Holder: CWLNR3232P12-95
Vc=260m/min
ap=2.5mm
f= 0.5mm/r
Tool life: 80 pcs/edge

Our CBN inserts cutting efficiency is 4 times compare with domestic brand carbide inserts while the cost is 60% lower

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Horseshoe-shaped Automotive Brake disk Turning

Workpiece: HT250  
Hardness: HB200  
Insert: CNMN120412 S03020  
Vc=160m/min  
ap= 2.5mm  
f=0.5mm/r

Duration is 3 times higher than imported carbide inserts while cost reduces 50%
Turning Gear

1. The precision can reach ±0.01mm
2. Surface Roughness can be controlled under Ra0.8-1.6μm
3. It can replace the grinding process, then reduce the investment of grinding machine
4. One Clamping can complete the precision working for all complex turning route, then enhance cutting efficiency.
5. Dry cutting, energy saving and protect environment.

Note: The virtual working precision is related with the late precision.

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Workpiece: Hardened alloy steel
Hardness: HRC48
Insert: TNGA 110304 S01020-6S
Vc=100-120m/min; ap=0.06mm,
f=0.06mm/r
Ra0.8-1.6μm

Precision Bore Honing, Turning replace grinding

Our CBN insert show the same working performance as foreign brand, cost is 40% lower.
### Precision Turning Automotive Transmission Gear Box

<table>
<thead>
<tr>
<th>刀具</th>
<th>转  速 r/min</th>
<th>切削速度 m/min</th>
<th>进给速度 mm/rev</th>
<th>切削深度 mm</th>
<th>切削时间 (秒)</th>
<th>冷却方式</th>
<th>参数对比</th>
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<tbody>
<tr>
<td>原用刀具</td>
<td>1600</td>
<td>130.6</td>
<td>0.06</td>
<td>0.15/0.07</td>
<td>23”</td>
<td>水溶液</td>
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<td>0.15/0.07</td>
<td>23”</td>
<td>水溶液</td>
<td>相同</td>
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<tr>
<th>刀具</th>
<th>品   牌</th>
<th>刀具规格及材质</th>
<th>刀尖数</th>
<th>加工总数</th>
<th>刀尖平均</th>
<th>刀片单价</th>
<th>加工单位成本对比</th>
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<tbody>
<tr>
<td>原用刀具</td>
<td>Foreign Brand</td>
<td>NP–CCGW09T304G MB825</td>
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#### 试验总结
对纹路减少有改善，其它效果相仿，有一定性价比，可以进行推广

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www.cbninserts.com
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Workpiece: 17CrNiMo6
Hardness: HRC57
Insert: SNMN 12T612 S02020
Holder: CSXNR4040S12T6
Lathe: 61160
Vc=60m/min;
ap=0.5mm,f=0.6mm/r

Our CBN inserts life/duration is the 3-5 times compare with imported foreign carbide insert while the production cost reduce 65%
Cylinder Block Rough Turning

Workpiece: Alloy Cast Iron
Hardness: HRC55
Workpiece Size: D330X550
Holder: SNMN120412
Vc=60m/min, ap=1.5mm, f=0.5mm/r

Fine Machining
Vc=180m/min
ap=0.5mm, f=0.5mm/r
Tool life: 100pcs/edge

Our CBN inserts life/duration is 4 times compared with carbide insert while reducing production cost by 50%.

Honing Turning Cylinder Block Bore

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Automotive Axle Machining

Workpiece: HT200; Hardness: HB180
Vc=400m/min; ap=0.5-2mm; f=0.5mm/r

Our CBN inserts life/duration is the 3 times compare with domestic carbide insert while reduce production cost by 45%

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Automotive Crankshaft Vibration Reduction Belt Pulley Machining

Workpiece: HT200, Hardness: HB220
CBN Insert: SNGA 120408 S01020
Rough Machining Parameters: $V_c=300\text{m/min}; \ ap=3\text{mm}, \ f=0.6\text{mm/r}$
Fine Machining Parameters: $V_c=650\text{m/min}; \ ap=0.5\text{mm}, \ f=0.6\text{mm/r}$
Duration: 500 pieces/edge

Duration is 3 times higher than domestic famous carbide insert while cost reduce 50%

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Air Conditioning Compressor Machining

Workpiece: HT250 HT200  Hardness: HB160-230
Vc=350-450m/min;  ap=1-2.5mm,  f=0.6mm/r

Duration is 4-5 times higher than other brands

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