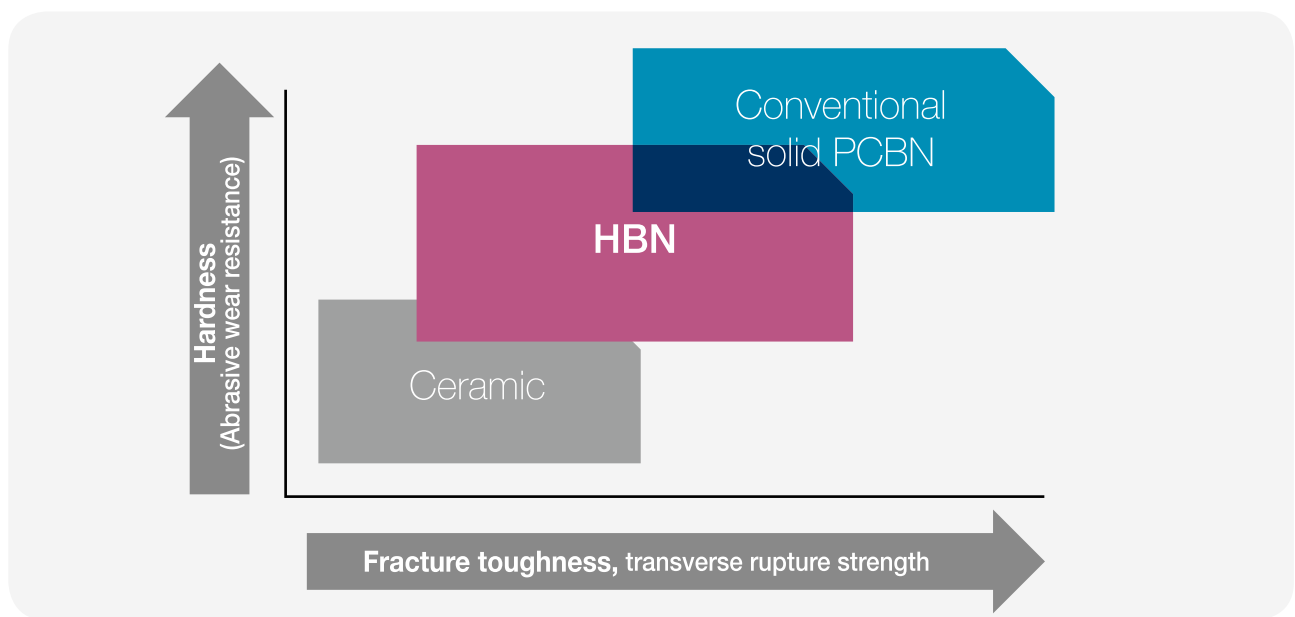
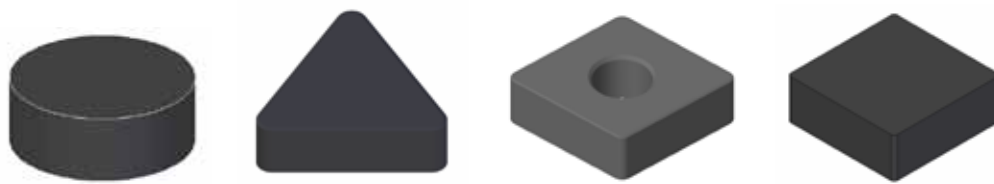


# EHWA new PCBN material






## HBN | Hybrid solid PCBN

**HBN** is an EHWA hybrid PCBN manufactured by using a special sintering process with a ceramic binder and CBN powder. It's much more competitive than conventional PCBN and it has stronger outstanding wear-resistance & toughness compared to ceramics. Therefore, it's a good solution for both roughing and finishing of cast iron.



| Nonferrous material | Conventional solid PCBN | HBN     | Ceramic |
|---------------------|-------------------------|---------|---------|
| Chemical resistance | □ □                     | □ □     | □ □ □   |
| Wear resistance     | □ □ □ □ □               | □ □ □ □ | □       |
| Impact resistance   | □ □ □                   | □ □ □   | □       |



| C type  | D type  | T type  | S type   | R type  |
|---|---|---|--|---|
|  |  |  |  |  |
| CNGN0903(32)  | DNGN1104(33)  | TNGN1103(22)  | SNGN0903(32)   | RNGN0603(22)  |
| CNGN0904(33)  | DNGN1504(43)  | TNGN1104(23)  | SNGN0904(33)   | RNGN0904(33)  |
| CNGN1204(43)  |   | TNGN1604(33)  | SNGN1204(43)   | RNGN1204(43)  |
| CNGN1207(45)  |   | TNGN2204(43)  | SNGN1207(45)   | RNGN1207(45)  |

\* Special inserts with various shapes are available for turning and milling applications.

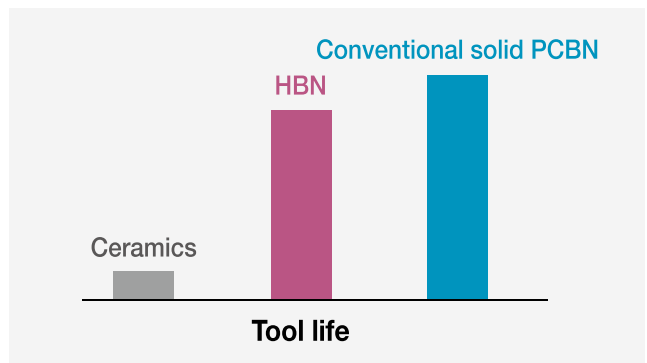
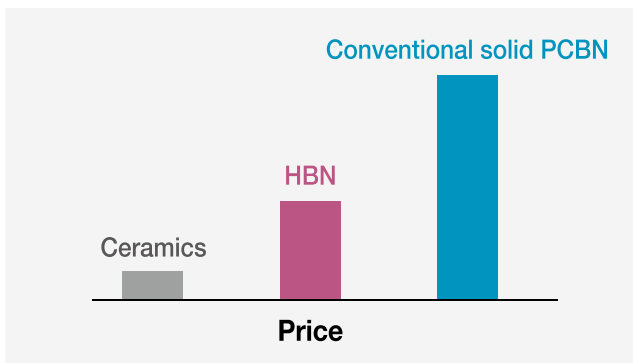


## Applications

Brake disk, brake drum, cast iron engine block, impeller, slurry pumps, rolling mill iron rolls



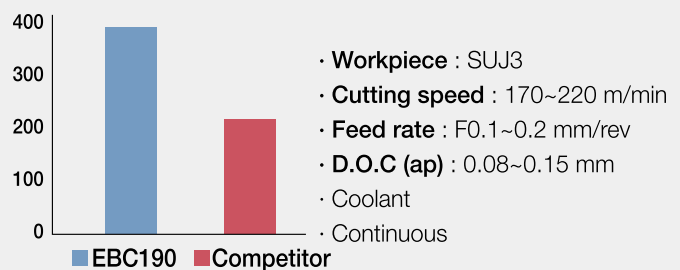
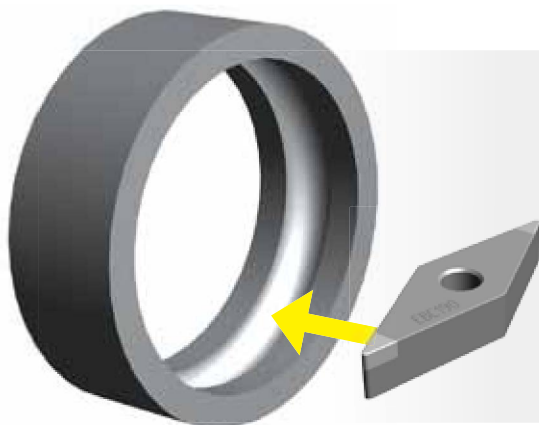
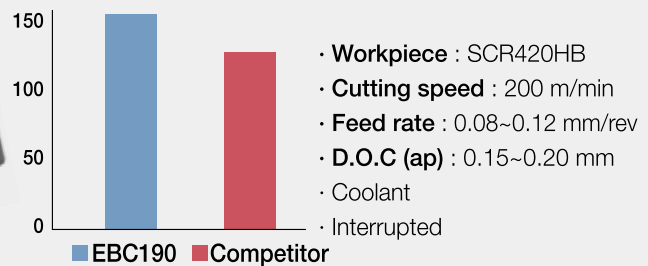
## Performance comparison



# EHWA new PCBN material

## EBC190 | new coated grade for hardened steel

**EBC190** is a new PCBN grade which has high toughness and wear resistance. This coated grade performs well in bearing steel and hardened steel applications. EBC190 also performs well in both continuous and interrupted cutting applications.

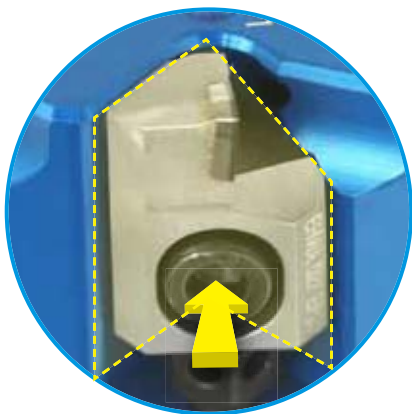


# EHWA new milling cutter

CF milling cutter | chip flow cutter

## EHWA original design for better chip flow

- Direct coolant spray to the tip edge
- Good chip flowing
- Longer tool life by strong mounting stability
- Good surface finish
- Easy to handle due to the light aluminum body
- Excellent durability and low cutting load
- High productivity and process stability  
(more cutting edge → high feed → cycle time reduction)



Strong mounting stability



Direct coolant spray

