

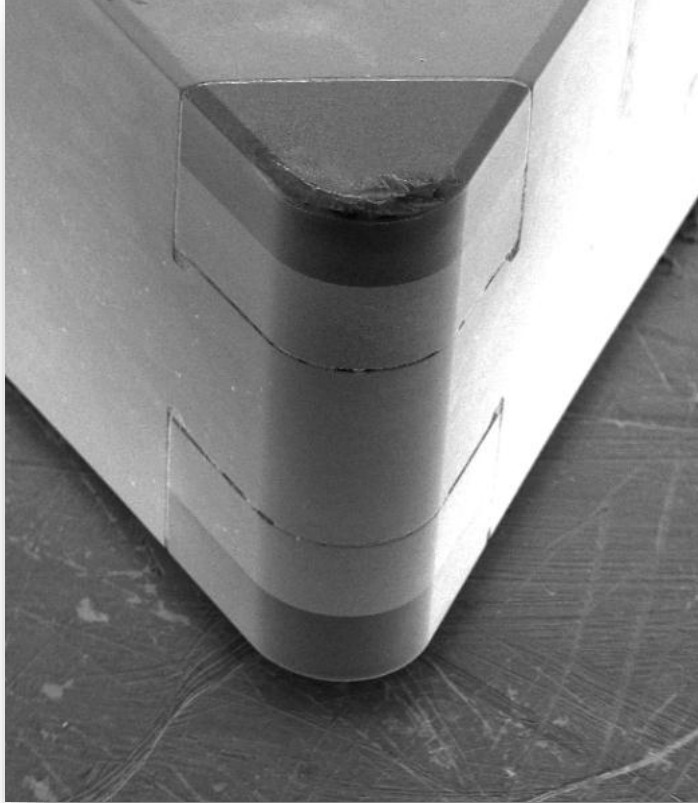
# **VT** SOLID INSERT FOR HARD TURNING



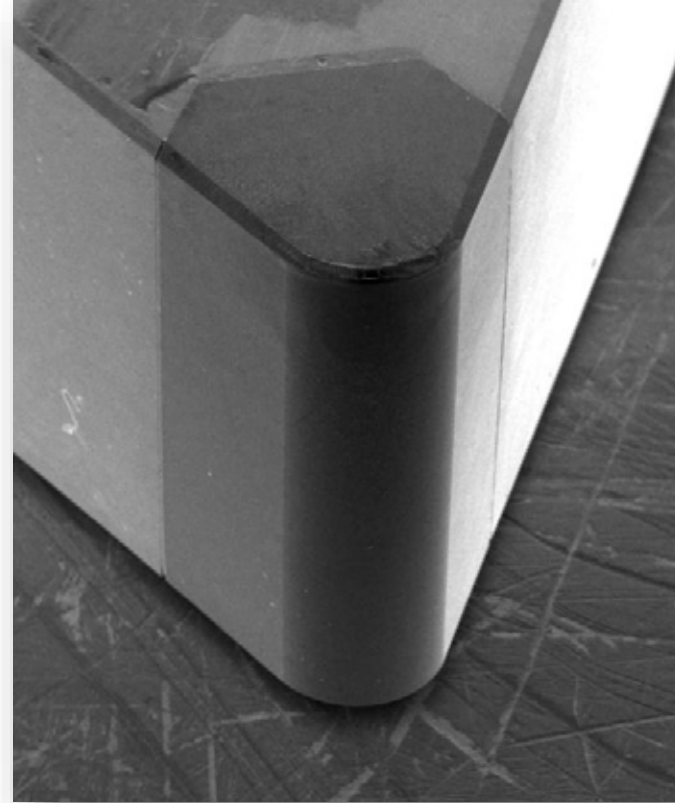
- ✓ **VERTICAL BRAZING**
- ✓ **SOLID PCBN**
- ✓ **MULTI EDGE**
- ✓ **CHIPBREAKER**
- ✓ **COATING**

# VERTICAL BRAZING

**STANDARD TIP**

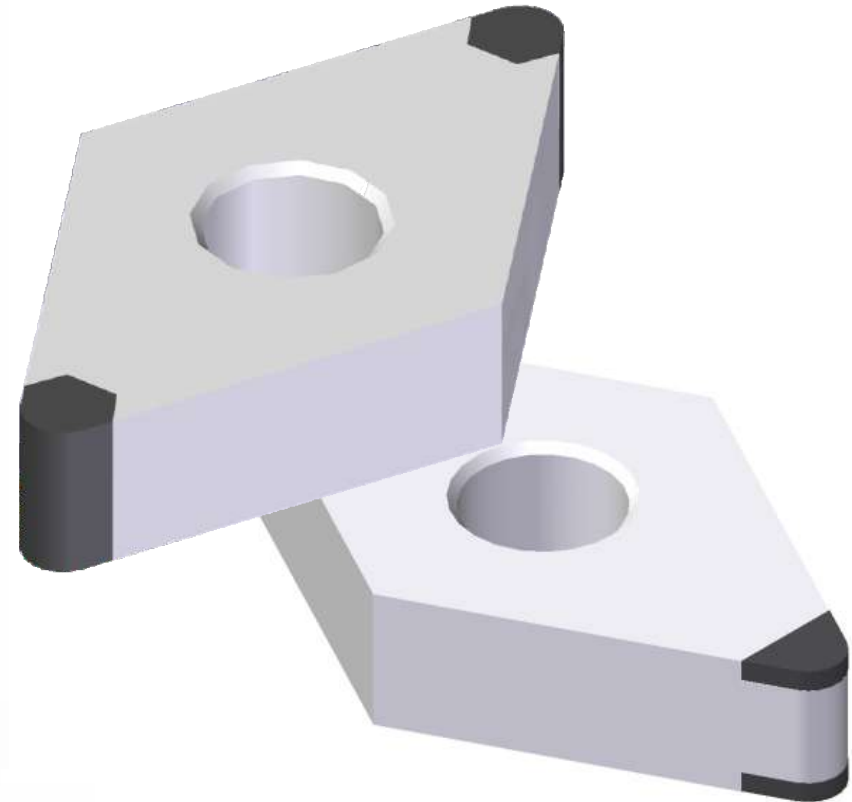


**VERTICAL SOLID**



- ✓ **Brazing strength of vertical solid insert is much better than a standard insert.**
- ✓ **It reinforces tool rigidity, and minimize the heat damage generated from machining process. Therefore it helps the tool's stabilization.**
- ✓ **Active brazing (high temperature, vacuum condition)**

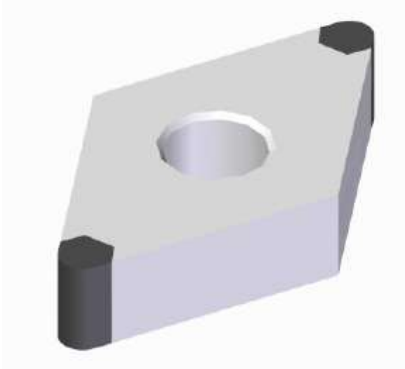
# SOLID PCBN MATERIAL



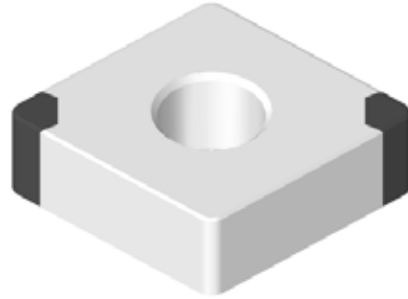
- ✓ **Excellent thermal resistance / chemical resistance**  
The thick PCBN layer quickly conducts the heat damage generated from machining process therefore it can improve a tool life
- ✓ **It can minimize the quality variation of each corner by solid PCBN.**
- ✓ **Excellent tool rigidity.**  
The machining load is dispersed by whole solid PCBN .
- ✓ **This is the optimized design of negative insert.**

# MULTI CORNER

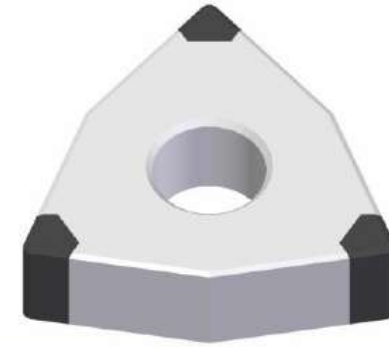
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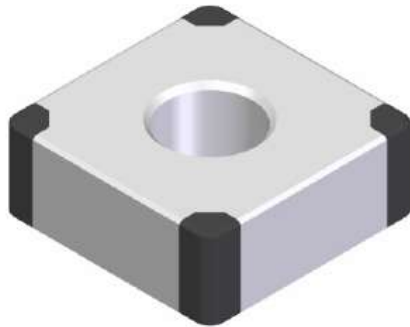
4VT-DNGA1504



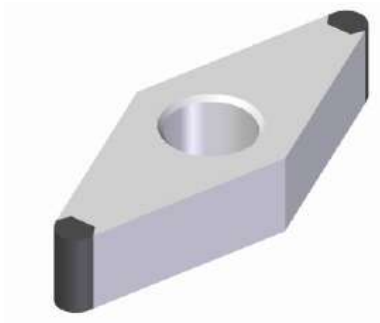
4VT-CNGA1204



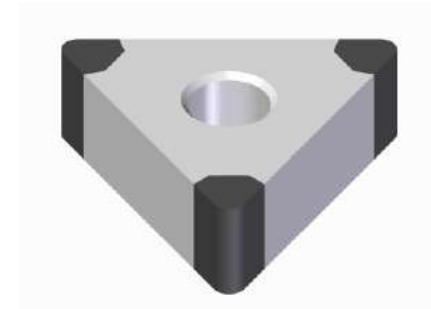
6VT-WNGA0804



8VT-SNGA1204



4VT-VNGA1604



6VT-TNGA1604

# CHIP BREAKER SOLUTION

- ✓ Feasible chip control resulting in longer tool life for hard part turning.



## ✓ TEST RESULT

- Tool spec : 4VT-CNGA120408 with breaker
- Work material : SCr 420H (HRC58)
- Cutting speed : 120m/min
- Depth of cut : 0.15mm
- Coolant : Dry
- Feed rate : 0.15mm/rev



With chip breaker



Without chip breaker

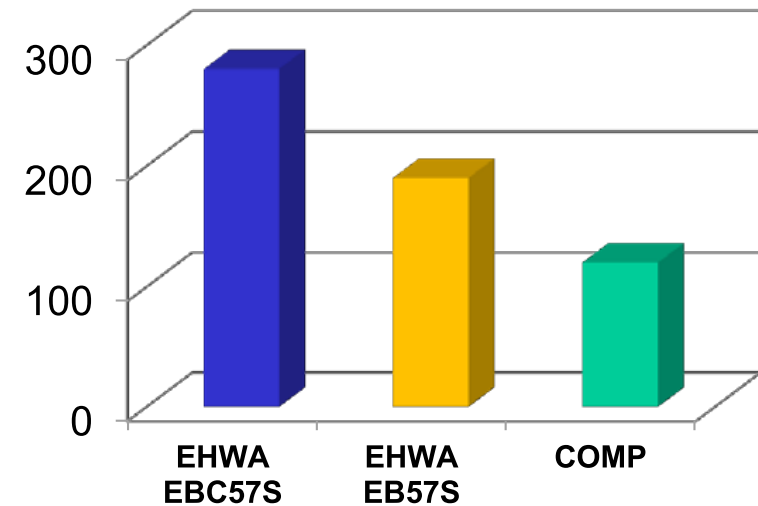
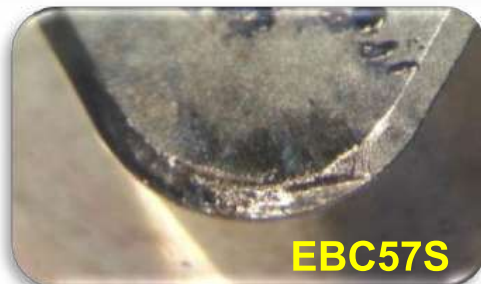
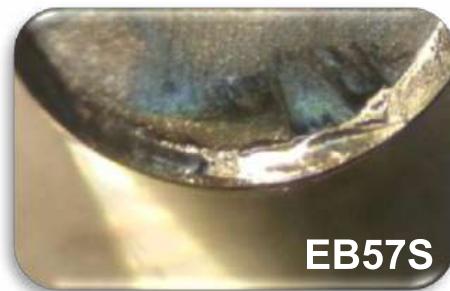
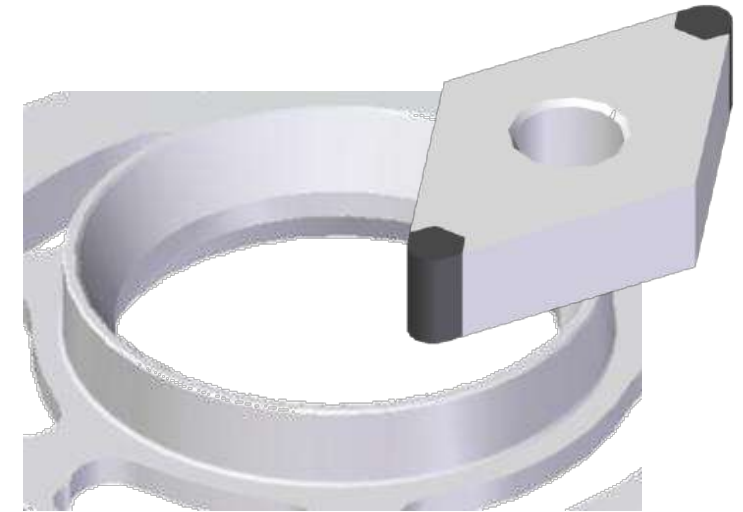
# TEST CASE - TAPER BEARING HARD TURNING

## Application

- WORK : T/M TAPER BEARING INNER
- TOOL SPEC: PCBN-INSERT, 4VT-DNGA150412, EB57S
- CUTTING SPEED : 140M/MIN,
- FEED RADE : 0.17MM/REV

## Test result

- TOOL LIFE : EB57S – 190 EA  
EBC57S – 280 EA  
COMP – 120EA



# TEST CASE - CVT PULLY HARD TURNING

## Application

- WORK : CVT PULLY HARD TURNING
- TOOL SPEC: PCBN-INSERT, 4VT-DNGA150408, EBC28S
- CUTTING SPEED : 120M/MIN,
- FEED RADE : 0.15MM/REV

## Test result

- TOOL LIFE : EBC28S – 400EA  
COMP – 300EA

