

# Characteristics Of Different Types Of PCBN / CBN Inserts

## Chip breaker

Control the length of iron filings to prevent surface scratches

Automatic production line use, avoid entanglement, improve production efficiency

Reduce cutting forces and cutting temperatures to extend tool life

Increase the sharpness of the cutting edge and avoid the deformation of the workpiece

## Wiper

Improve workpiece surface quality and processing efficiency

Improve workpiece roughness

High cutting resistance, for high rigidity machine tools



## Locating pit

Improve machining stability and tool loading accuracy

Multi-directional cutting, such as copying, improves blade performance and accuracy

Reduce blade vibration during cutting and extend tool life

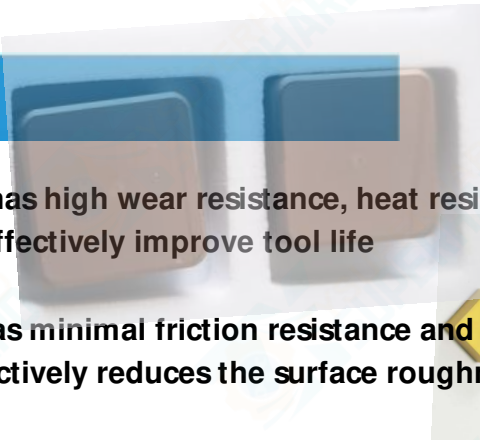


## Coating type

**Rose purple coating** : has high wear resistance, heat resistance, oxidation resistance, effectively improve tool life

**The yellow coating** : has minimal friction resistance and lubrication performance, and effectively reduces the surface roughness of the workpiece

**The silver coating** : has very high impact resistance and film bonding force, which is excellent in strong intermittent processing



# Application Of PCBN Superhard Inserts



Brake disc



Engine cylinder block



Brake drum



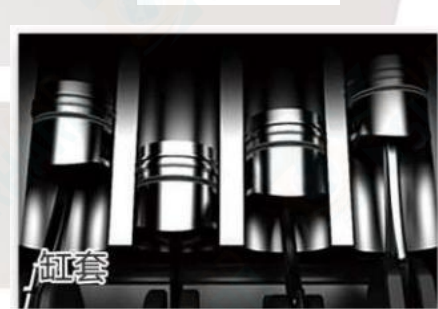
Bearing



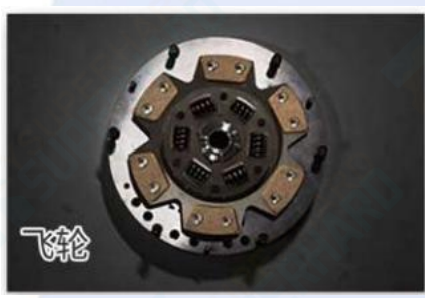
Gear wheel



Belt pulley



Cylinder liner



Flywheel

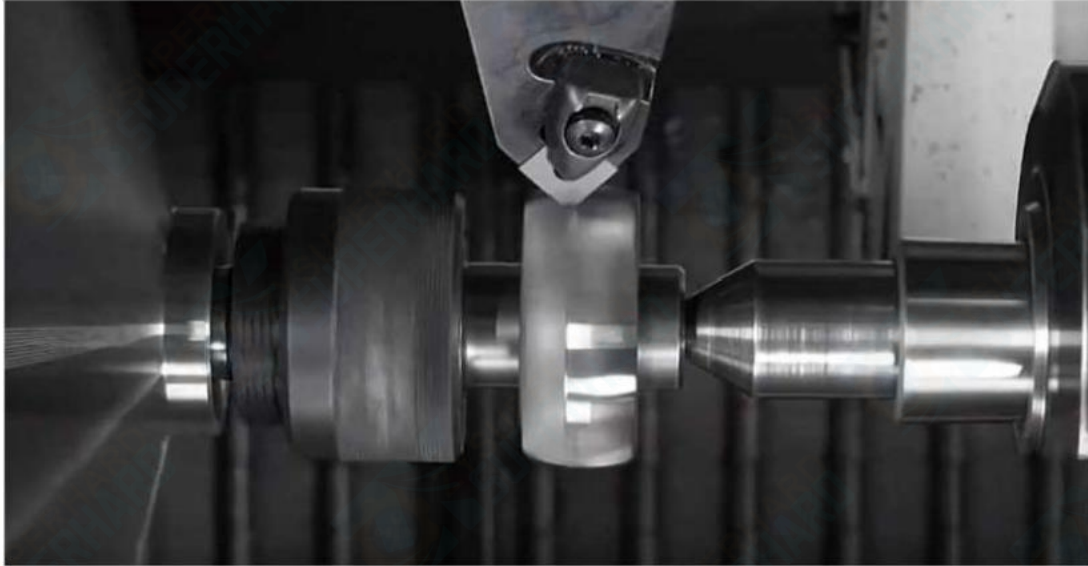


Crank shaft



Cardan joint

# Advantages of Solid CBN Super Hard Inserts



## Advantages

**1. Lathe instead of grinder, lower machine investment**

**2. Process integration, lower energy consumption**


**3. Turning process, with better flexibility**

**4. Higher processing efficiency**

**5. Effectively reduce blade inventory**

**6. Scraps, easier to collect**

**7. Do not need cutting fluid, environmental protection and economic**

3.Precision			
			
Code	Tolerance(mm)		
	m	d	s
A	±0.005	±0.025	±0.025
C	±0.013	±0.025	±0.025
G	±0.025	±0.025	±0.13
M	±0.08	±0.05	±0.13
	±0.18	±0.13	
N	±0.08	±0.05	±0.025
	±0.18	±0.13	
U	±0.13	±0.08	±0.13
	±0.38	±0.25	

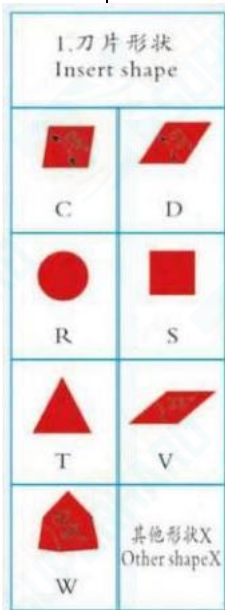


6. Thickness	
01	1.59
02	2.38
03	3.18
T3	3.97
04	4.76
06	6.35
07	7.94
09	9.52

7. Insert nose radius	
00	0
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
MO	目形刀片 Rend o

10. Wiperland			
W-Have;No code-None			
Entering angle (Kr <sup>2</sup> )		Direction	
D	45°	R-Right hand	L-Left hand
E	60°		
B	75°		
G	90°	N-R&L	
J	93°		
L	95°		
Z	other		

T	N	M	A	16	04	08	T02020	C	(WDR)	N
1	2	3	4	5	6	7	8	9	10	11



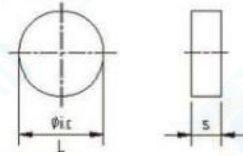
2. Insert clearance angle	
B	C
D	E
P	N
Other°	

4. Chip breaker and fixing type	
A	M
G	R
N	W
T	spccialX

8. Cutting edge condition		
shape	wide	angle
F		
Sharp edge		
E		
Horning		
T	008~0.08	05~5°
Chamfer	010~0.10	10~10
	113-11.15	15~15°
	020~0.20	20~20
S	025~0.25	25~25°
	030~0.30	30~302
	035~0.35	

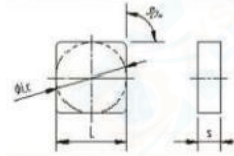
9. Rake angle	
Z	0°
A	3°
B	5°
C	10°
D	15°
X	Others

11. Material	
N	PCBN
D	PCD



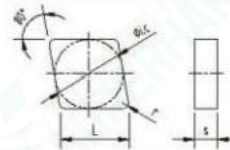
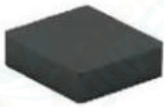
Fastening pit can be customized upon request

型号	尺寸 (mm)				standard cutting edge					
ISO	L	o.l. c	S	r						
RNMN 090400	9.525	9.525	4.76		S02020 S05020 S10020					
RNMN 120400	12.7	12.7	4.76							
RNMN 120700	12.7	12.7	7.94							
RNMN 150700	15.875	15.875	7.94							
RNMN 200800	20	20	7.94							
RNMN 201000	20	20	10							



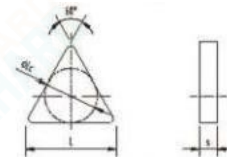
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型号	尺寸 (mm)				standard cutting edge					
ISO	L	o.l. c	S	r						
SNMN 0903--	9.525	9.525	3.18		S02020					
SNMN 1204--	12.7	12.7	4.76		S05020					
SNMN 1507--	15.875	15.875	7.94		S10020					



Fastening pit can be customized upon request

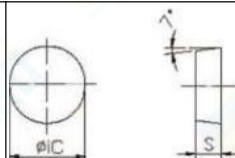
型号	尺寸 (mm)				standard cutting edge					
ISO	L	o.l. c	S	r						
CNMN 0904--	9.7	9.525	4.76		S02020					
CNMN 1204--	12.9	12.7	4.76							
CNMN 1207-	12.9	12.7	7.94							
CNMN 1607-	16	15.875	7.94							



Fastening pit can be customized upon request

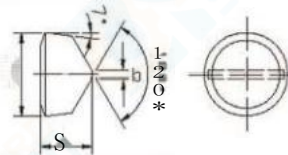
型号	尺寸 (mm)				standard cutting edge					
ISO	L	o.l. c	S	r						
TNGN 1103--	11	6.35	3.18		S01020					
TNGN 1604-	16.5	9.525	4.76		S02020					

● Cutting edge form can be customized according to customer needs



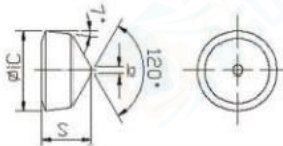
Fastening pit can be customized upon request

型号	尺寸 (mm)				st andar d cut t i n g edge					
ISO	L	o.l. c	S	r						
RCMN 060400	6.35	6.35	4.76	0	S02020 S05020 S10020					
RCMN 090400	9.525	9.525	4.76	0						
RCMN 090600	9.525	9.525	6.35	0						
RCMN 120600	12.7	12.7	6.35	0						
RCMN 120700	12.7	12.7	7.94	0						
RCMN 150700	15.875	15.875	7.94	0						
RCMN 190700	19.05	19.05	7.94	0						



Fastening pit can be customized upon request

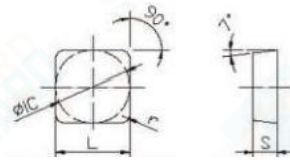
型号	尺寸 (mm)				st andar d cut t i n g edge					
ISO	L	o.l. c	s	b						
RCMX 060400V	6.35	6.35	4.76	0.8	S02020 S05020 S10020 S20020					
RCMX 060600V	6.35	6.35	6.35	0.8						
RCMX 090700V	9.525	9.525	7.94	1						
RCMX 120700V	12.7	12.7	7.94	2						
RCMX 151000V	15.875	15.875	10.0	2						
RCMX 191000V	19.05	19.05	10.0	2						
RCMX 201200V	20.0	20.0	12.0	2						
RCMX 251200V	25.4	25.4	12.0	2						



Fastening pit can be customized upon request

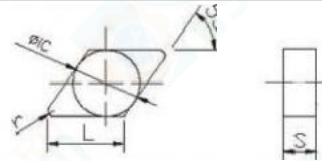
型号	尺寸 (mm)				st andar d cut t i n g edge					
ISO	L	o.l. c	s	b						
RCMX 060400Y	6.35	6.35	4.76	0.6	S02020 S05020 S10020 S20020					
RCMX 060500Y	6.35	6.35	5.56	0.6						
RCMX 060700Y	6.35	6.35	7.94	0.6						
RCMX 090700Y	9.525	9.525	7.94	1						
RCMX 120700Y	12.7	12.7	7.94	1.2						

● Cutting edge form can be customized according to customer needs



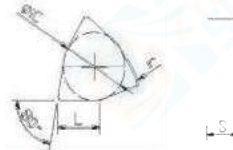
Fastening pit can be customized upon request

型号	尺寸 (mm)				st and ar d cut t i n g e d g e					
ISO	L	o l . c	S	r						
SCGN 0903-	9.525	9.525	3.18		T01020					
SCGN 0904-	9.525	9.525	4.76		S01020 S02020					



Fastening pit can be customized upon request

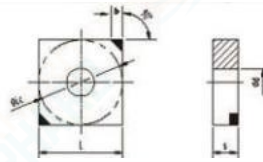
型号	尺寸 (mm)				st and ar d cut t i n g e d g e					
ISO	L	o l . c	S	r						
DNUN 1104-	11.6	9.525	4.76		S01020					
DNUN 1106-	11.6	9.525	6.35		S02020					



Fastening pit can be customized upon request

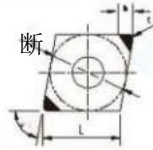
型号	尺寸 (mm)				st and ar d cut t i n g e d g e					
ISO	L	o l . c	S	r						
WNMN 0804-	8.7	12.7	4.76		S02020					
WNMN 0806-	8.7	12.7	6.35							

● Cut t i n g e d g e f o r m c a n b e c u s t o m i z e d a c c o r d i n g t o c u s t o m e r n e e d s



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accor di ngt ot hepr ocessi ng  
nat er i al

型号	尺寸 (mm)							standard cutting edge								
ISO	L	o.l. c	S	od	r	b		T01020 T02020 S01020 S02020								
						s	N									
SNGA120404-2N	12.7	12.7	4.76	5.16	0.4											
SNGA120408-2N	12.7	12.7	4.76	5.16	0.8											
SNGA120412-2N	12.7	12.7	4.76	5.16	1.2											



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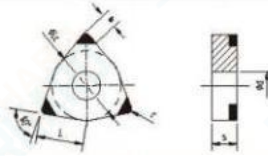
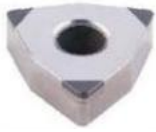
型号	尺寸 (mm)							standard cutting edge								
ISO	L	o.l. c	S	od	r	b		T01020 T02020 S01020 S02020								
						s	N									
CNGA1204--2N	12.9	12.7	4.76	5.15												
CCGW0602---2N	6.35	6.35	2.38	2.8												
CCGW09T3---2N	9.7	9.525	3.97	4.4												
CCGW1204---2N	12.9	12.7	4.76	5.5												



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accor di ngt ot hepr ocessi ng  
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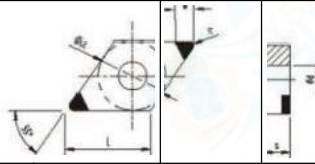
型号	尺寸 (mm)							standard cutting edge								
ISO	L	o.l. c	S	od	r	b		T01020 T02020 S01020 S02020								
						s	N									
TNGA1604--3N	16.5	9.525	4.76	3.81												
TPGW0802--3N	8	4.76	2.38	2.4												
TPGW0902---3N	9.6	5.56	2.38	2.5/2.8												
TPGW1103---3N	11	6.35	3.18	2.8												
TPGW1603--3N	16.5	9.525	3.18	4.4												
TPGW1604--3N	16.5	9.525	4.76	4.4												

● : Available products, cutting edge length default is S, N standards, need special L(blade length) please note in the order, cutting edge form can be customized according to customer needs



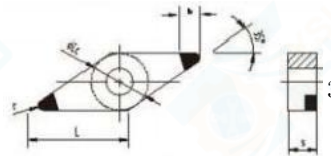
The coating scheme and chip breaking scheme can be developed according to the processing material

型号	尺寸 (mm)						standard cutting edge							
ISO	L	o.l. c	S	od	r	b								
						A	B							
WNGA0604---3N	6	9.525	4.76	3.81				T01020 O2020 S01020 S02020						
WNGA0804---3N	8.7	12.7	4.76	5.16										



The coating scheme and chip breaking scheme can be developed according to the processing material

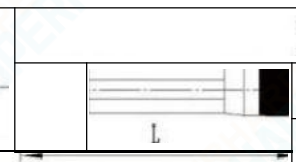
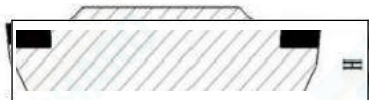
型号	尺寸 (mm)						standard cutting edge								
ISO	L	o.l. c	S	od	r	b									
						A	B								
DNGA1104--2N	11	9.525	4.76	3.81				T01020 T02020 S01020 S02020							
DNGA1504--2N	15.5	12.7	4.76	5.16											
DNGA1506---2N	15.5	12.7	6.35	5.16											
DCGW0702--2N	7	6.35	2.38	2.8											
DCGW1103---2N	11	9.525	3.97	4.4											



The coating scheme and chip breaking scheme can be developed according to the processing material

型号	尺寸 (mm)						standard cutting edge								
ISO	L	o.l. c	S	od	r	b									
						A	B								
VNGA1604--2N	16.6	9.525	4.76	3.81				T01020 T02020 S01020 S02020							
VBGW1103---2N	11	6.35	3.18	2.8											
VBGW1604--2N	16.6	9.525	4.76	4.4											
VCGW0802---2N	8	6.35	2.38	2.3											
VCGW1103---2N	11	6.35	3.18	2.8											
VCGW1604---2N	16.6	9.525	4.76	4.4											

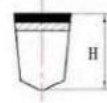
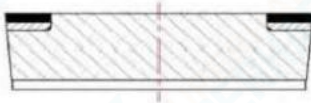
● Available products, cutting edge length default is S, N standards, need special L (blade length) please note in the order, cutting edge form can be customized according to customer needs



型号	尺寸 (mm)						
ISO	L	B	H	R			
MGGN 200R-	16	2	3.5				
MGGN 300R-	21	3	4.8				
MGGN 400R-	21	4	4.8				



型号	尺寸 (mm)						
ISO	L	B	H	R			
MRGN 200	16	2	3.5	1.0			
MRGN 300	21	3	4.8	1.5			
MRGN 400	21	4	4.8	2.0			
MRGN 500	26	5	5.8	2.5			



型号	尺寸 (mm)						
ISO	L	B	H	R			
VGGN 200R05	20.5	2	6	0.5			
VGGN 300R05	20.5	3	6	0.5			
VGGN 400R05	20	4	6	0.5			



型号	尺寸 (mm)						
ISO	L	B	H	R			
VRGN 300	20.5	3	6	1.5			
VRGN 400	20	4	6	2.0			
VRGN 500	25.2	5	7	2.5			