

Tipped CBN Inserts



Standard/Chip breaker/Wiper

Company Profile

ToolingBox (Beijing) Industrial Technology Co.,Ltd is a Chinese professional manufacturer for cutting tools. We supply solid&brazed CBN tools, Tipped PCD inserts and tools, carbide inserts and tools for woodworking and metalworking industries.

With over a decade of dedicated expertise, our company specializes in the research, development, production, promotion, and technical service of tungsten carbide cutting tools. Our product range includes woodworking carbide reversible knives, molding knives, circular cutters, oscillating knives, carbide thin razor blades, carbide scrapers, and more. These products find extensive applications in wood processing, paper printing, film and fiber industries, electronic battery cutting, and various other sectors. Renowned for our outstanding product quality and prompt deliveries, we have garnered recognition from numerous customers, leading to a significant domestic market share and exports to countries and regions, including Europe, the United States, Russia, Mid east, India and Southeast Asia.

Our company possesses a comprehensive set of standardized testing equipment and processes to ensure product quality. We are supported by a professional team specializing in production, technology, and sales, capable of addressing various customer-related issues. With over 100 CNC grinding machines, end mills, surface grinders, and a variety of imported inspection devices, we stand as one of the industry's largest, highest-output, most diverse, and fully-equipped enterprises in China.

We adhere to the business philosophy of "integrity in operation, superior quality, and customer-first", continuously enhancing our corporate image and product quality, reducing overall costs, shortening delivery times, and consistently improving customer satisfaction.

ToolingBox, Professional makes values!





Raw material production



Raw material inspection



Flat grinding



CNC cutting edge



CNC cutting edge



Cleaning



Inspection of the first



Inspection of the second

Page	05-07	Tipped CBN Material Introduction
Page	08-09	Rule of Tipped CBN Insert Code
Page	10-30	ISO Item Size of CBN tipped Inserts
Page	31	Cutting Speed Recommendation
Page	32	Customized CBN Inserts

ToolingBox CBN composite sheet Materials

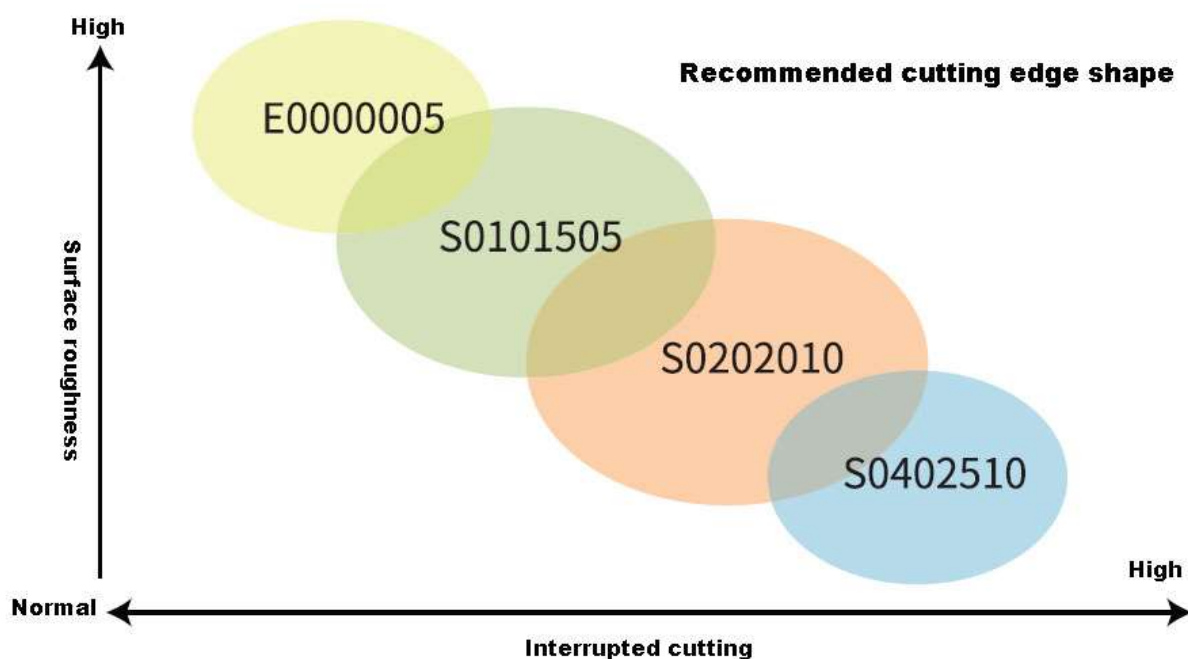
For K Material Group (cast iron machining)

ToolingBox®

Workpiece Material	PCBN grade	CBN content %	CBN grade(um)	Hardness (Hv)	Characteristics
K	B9700	90-95	3	3600-3800	Excellent wear resistance
	BK50	90-95	1	3700-3900	Combination of abrasion resistance and impact resistance

Recommended cutting data:

Machining Material	Cutting Condition		
	Vc(m/min)	fn (mm/r)	Ap (mm)
Grey Cast Iron	200 600 2000	0.03 0.05 0.1 0.15	0.05 0.1 0.3 0.5
Ductile Iron	200 600 2000	0.03 0.05 0.1 0.15	0.05 0.1 0.3 0.5



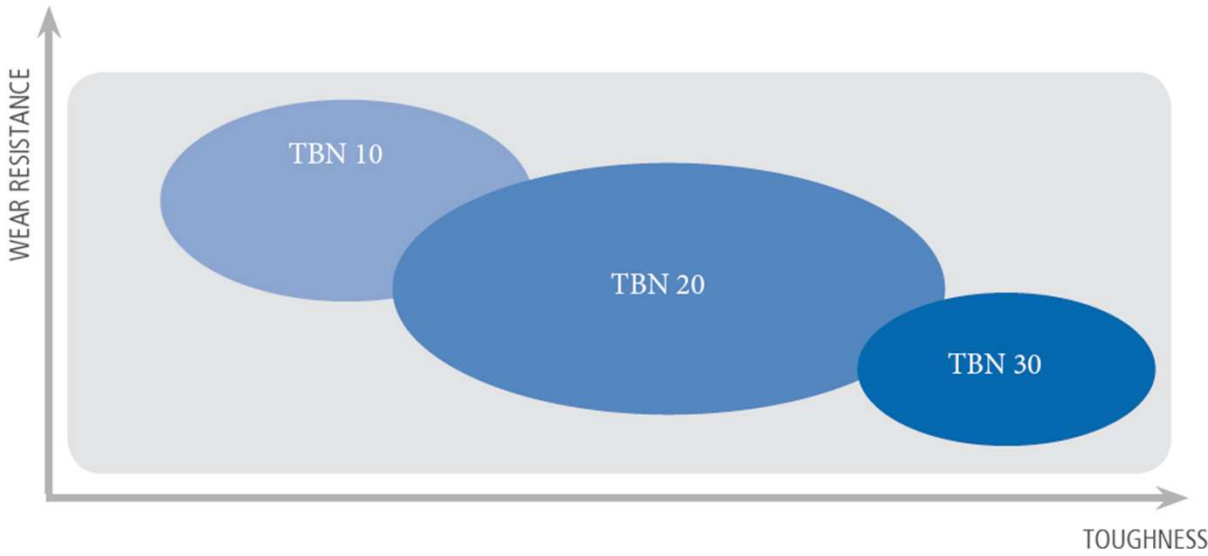
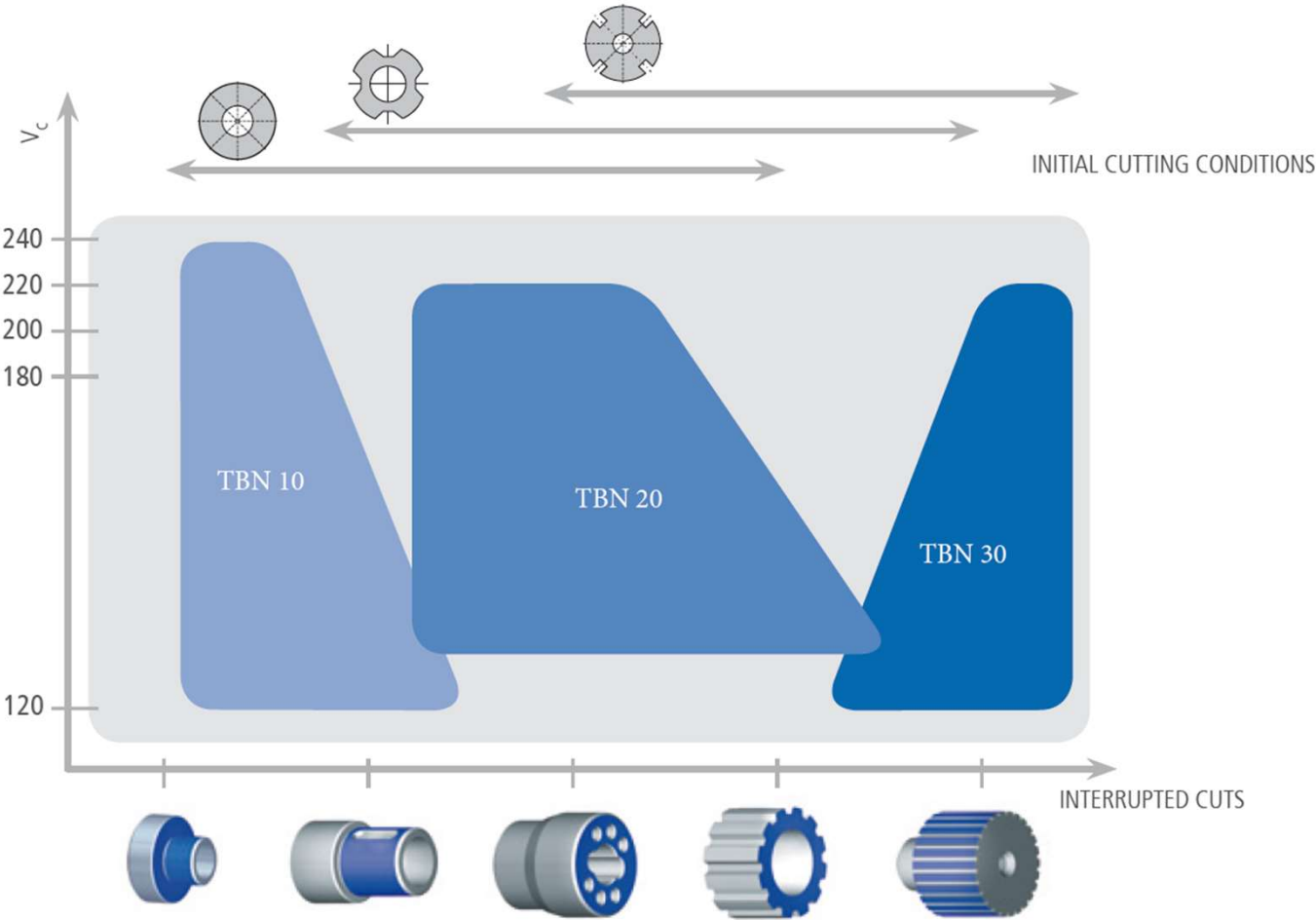
Material Group (ISO513 Standard)

- P** P: Steel
- M** M: Stainless Steel
- K** K: Cast Iron
- N** N: Non-Ferrous Materials
- S** S: High-Temp Alloys
- H** H: Hardend Materials

Materials grade		
Grades	Multi-tipped	
TBN10	●	
TBN20	●	
TBN30	●	

Hard Steel Machining – Special PCBN Introduction.

Workpiece Material	PCBN Grades	Content %	CBN Grade μm	Bond	Hardness	Characteristics	Applications
H	TBN10	45~50	1	TiC	2600~2800	Good thermal stability and crater wear resistance	● Used for high-speed continuous turning of hardened steel
	TBN20	60~65	1~2	TiCN	2600~2800	Combination of wear resistance and thermal stability	● Used for moderately interrupted and continuous turning of hardened steel ●
	TBN30	65~70	1<	TiN	2700~2900	High degree of toughness due to fine CBN and ceramic binder matrix	● ● Used for heavy interrupted turning of hardened steel ⚙

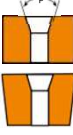


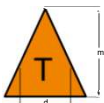
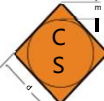
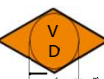
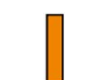
ISO

C	N	M	A	12	04	08	-	1	TP	-	T	010	15	0
1	2	3	4	5	6	7		8	9		10	11	12	13

1 insert shape			
A		R	
B		S	
C		T	
D		V	
		W	

2 clearance angle	
B	
N	
C	
P	
D	

4 machining and fastening feature					
A		N		W	 $\beta = 45 - 60^\circ$
B	 $\beta = 75 - 90^\circ$	Q	 $\beta = 45 - 60^\circ$	X	Drawing or Precise description of indexable inserts required

3 tolerances, ISO[mm]			
	d	m	s
	A ±0.025	±0.005	±0.025
	C ±0.025	±0.013	±0.025
	E ±0.025	±0.025	±0.025
	F ±0.013	±0.005	±0.025
	G ±0.025	±0.025	±0.130
	H ±0.013	±0.013	±0.025
	J ±0.05~±0.15	±0.005	±0.025
	K ±0.05~±0.15	±0.013	±0.025
	L ±0.05~±0.15	±0.025	±0.025
	M ±0.05~±0.15	±0.08~±0.20	±0.130

5 insert size									
Inner circle diameter		C	D	R	S	T	V	W	
IC mm	Code	Code	Code	Code	Code	Code	Code	Code	
3.97	1.2								
5	5/32"								
5.56	1.8								
6			06		07	08			
6.35	2	06	07	06		11	11	04	
8	1/4"	08		08				05	
9.525	3	09	11	09	09	16	16	06	
10	3/8"			10					
12				12					
12.7	4	12	15	12	12	22	22	08	
15.875	5	16		15	15	27		10	
16	5/8"			16				12	
19.05	6	19		19	19	33			
20	3/4"			20					
25									
25.4	8	25			25				
31.75	10								
	1-1/4"								

ANS

C	N	M	A	4	3	2	-	1N	TP	-	T	010	15	0
1	2	3	4	5	6	7		8	9		10	11	12	13

6 thickness			
ISO		ANSI	
01	1.59	1	1/16
T1	1.98	1.2	0.75
02	2.38	1.5	3/32
T2	2.78	-	-
03	3.18	2	1/8
T3	3.97	2.5	5/32
04	4.76	3	3/16
05	5.56	3.5	7/32
06	6.36	4	1/4
07	7.94	5	5/16
09	9.52	6	3/8

7 corner radius r mm, inch			
ISO		ANSI	
01	r=0.1	0.1	1/25
02	r=0.2	0	2/25
04	r=0.4	1	1/64
08	r=0.8	2	1/32
12	r=1.2	3	3/64
16	r=1.6	4	1/16
24	r=2.4	6	3/32
32	r=3.2	8	1/8
0	For diameters converted from imperial units to mm		
M0	For diameters in metric units		

8 number of cutting corners	
1	1 corner
2	2 corners
3	3 corners
4	4 corners
6	6 corners
8	8 corners

9 insert form	
	TP (Tipped CBN)
	BS (Brazed Solid CBN)
	SF

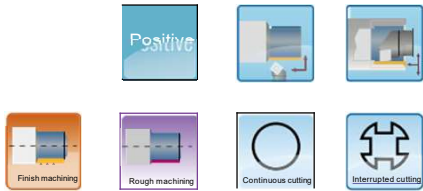
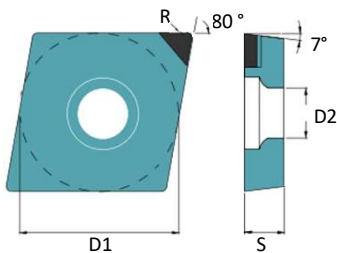
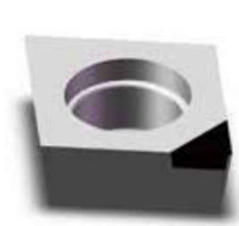
10 ① edge formation	
	Honing
	Sharp edge
	Chamfering
	Chamfering + Honing

11 ① chamfer width	
010	0.10mm
020	0.20mm
025	0.25mm
030	0.30mm
040	0.40mm
050	0.50mm
070	0.70mm
150	1.50mm
200	2.00mm

12 ① chamfer edge	
10	10°
15	15°
20	20°
25	25°
30	30°
35	35°
45	45°

13 ① blunt roundness	
02	0.002
05	0.005
10	0.01
20	0.02
30	0.03

CC GW/CC MW



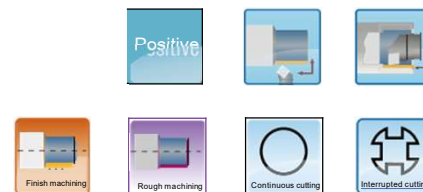
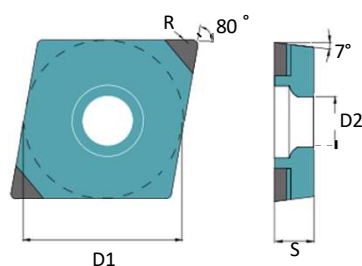
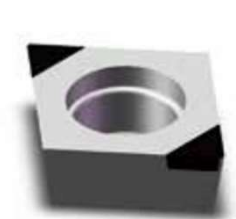
Designation	D1 [MM]	D2 [MM]	S [MM]	R
CCGW060202-1N	6.35	2.8	2.38	0.2
CCGW060204-1N				0.4
CCGW060208-1N				0.8
CCMW060202-1N	6.35	2.8	2.38	0.2
CCMW060204-1N				0.4
CCMW060208-1N				0.8
CCGW09T302-1N	9.525	4.4	3.97	0.2
CCGW09T304-1N				0.4
CCGW09T308-1N				0.8
CCMW09T302-1N	9.525	4.4	3.97	0.2
CCMW09T304-1N				0.4
CCMW09T308-1N				0.8
CCGW120402-1N	12.7	5.5	4.76	0.2
CCGW120404-1N				0.4
CCGW120408-1N				0.8
CCMW120402-1N	12.7	5.5	4.76	0.2
CCMW120404-1N				0.4
CCMW120408-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
CCGW090404-1N	9.525	3.81	4.76	0.4
CCGW090408-1N				0.8
CCGW090412-1N				1.2
CCGW090416-1N				1.6
CCMW090402-1N	9.525	3.81	4.76	0.2
CCMW090404-1N				0.4
CCMW090408-1N				0.8
CCMW090412-1N				1.2
CCGW120402-1N	12.7	5.5	4.76	0.2
CCGW120404-1N				0.4
CCGW120408-1N				0.8
CCGW120412-1N				1.2
CCGW120416-1N	12.7	5.5	4.76	1.6
CCMW120402-1N				0.2
CCMW120404-1N				0.4
CCMW120408-1N				0.8
CCMW120412-1N				1.2
CCMW120416-1N				1.6
CCGW160608-1N	15.875	6.35	6.35	0.8
CCGW160612-1N				1.2
CCGW160616-1N				1.6
CCMW160608-1N	15.875	6.35	6.35	0.8
CCMW160612-1N				1.2
CCMW160616-1N				1.6

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

CC GW/CC MW



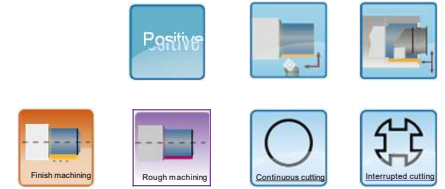
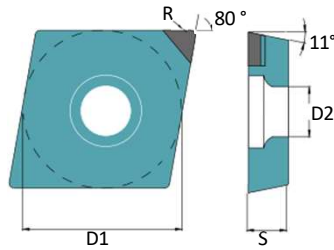
Designation	D1 [MM]	D2 [MM]	S [MM]	R
CCGW060202-2N	6.35	2.8	2.38	0.2
CCGW060204-2N				0.4
CCGW060208-2N				0.8
CCMW060202-2N	6.35	2.8	2.38	0.2
CCMW060204-2N				0.4
CCMW060208-2N				0.8
CCGW09T302-2N	9.525	4.4	3.97	0.2
CCGW09T304-2N				0.4
CCGW09T308-2N				0.8
CCMW09T302-2N	9.525	4.4	3.97	0.2
CCMW09T304-2N				0.4
CCMW09T308-2N				0.8
CCGW120402-2N	12.7	5.5	4.76	0.2
CCGW120404-2N				0.4
CCGW120408-2N				0.8
CCMW120402-2N	12.7	5.5	4.76	0.2
CCMW120404-2N				0.4
CCMW120408-2N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
CCGW090404-2N	9.525	3.81	4.76	0.4
CCGW090408-2N				0.8
CCGW090412-2N				1.2
CCGW090416-2N				1.6
CCMW090402-2N	9.525	3.81	4.76	0.2
CCMW090404-2N				0.4
CCMW090408-2N				0.8
CCMW090412-2N				1.2
CCGW120402-2N	12.7	5.5	4.76	0.2
CCGW120404-2N				0.4
CCGW120408-2N				0.8
CCGW120412-2N				1.2
CCGW120416-2N	12.7	5.5	4.76	1.6
CCMW120402-2N				0.2
CCMW120404-2N				0.4
CCMW120408-2N				0.8
CCMW120412-2N				1.2
CCMW120416-2N				1.6
CCGW160608-2N	15.875	6.35	6.35	0.8
CCGW160612-2N				1.2
CCGW160616-2N				1.6
CCMW160608-2N	15.875	6.35	6.35	0.8
CCMW160612-2N				1.2
CCMW160616-2N				1.6

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

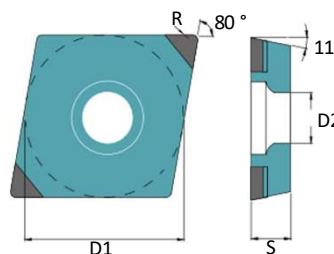
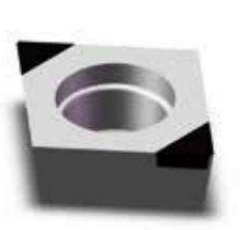
CP GW/CP MW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
CPGW060204-1N	6.35	2.8	2.38	0.4
CPGW060208-1N				0.8
CPMW060202-1N	6.35	2.8	2.38	0.2
CPMW060204-1N				0.4
CPMW060208-1N				0.8
CPGW090302-1N	9.525	4.4	3.18	0.2
CPGW090304-1N				0.4
CPGW090308-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
CPMW090304-1N	9.525	4.4	3.18	0.4
CPMW090308-1N				0.8
CPGW120402-1N	12.7	5.5	4.76	0.2
CPGW120404-1N				0.4
CPGW120408-1N				0.8
CPMW120402-1N	12.7	5.5	4.76	0.2
CPMW120404-1N				0.4
CPMW120408-1N				0.8

CP GW/CP MW



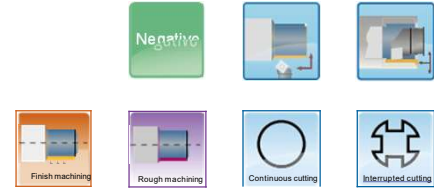
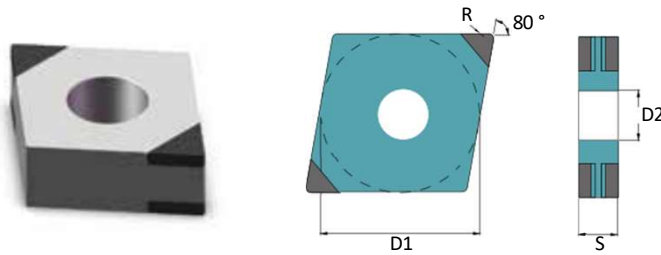
Designation	D1 [MM]	D2 [MM]	S [MM]	R
CPGW060204-2N	6.35	2.8	2.38	0.4
CPGW060208-2N				0.8
CPMW060202-2N	6.35	2.8	2.38	0.2
CPMW060204-2N				0.4
CPMW060208-2N				0.8
CPGW090302-2N	9.525	4.4	3.18	0.2
CPGW090304-2N				0.4
CPGW090308-2N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
CPMW090304-2N	9.525	4.4	3.18	0.4
CPMW090308-2N				0.8
CPGW120402-2N	12.7	5.5	4.76	0.2
CPGW120404-2N				0.4
CPGW120408-2N				0.8
CPMW120402-2N	12.7	5.5	4.76	0.2
CPMW120404-2N				0.4
CPMW120408-2N				0.8

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

CN GA/CN MA



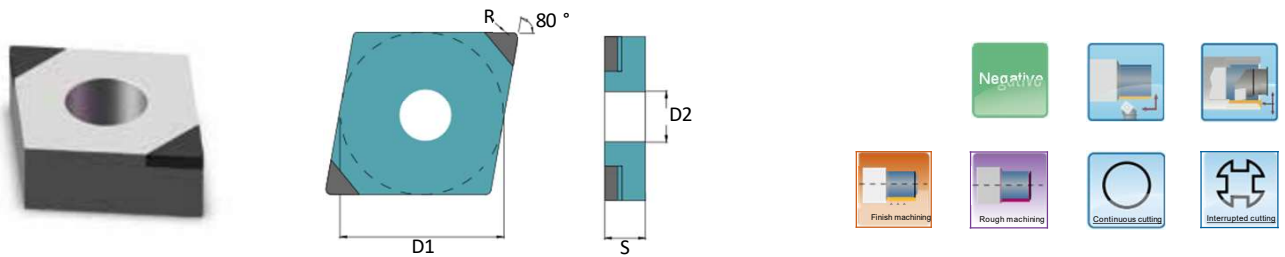
Designation	D1 [MM]	D2 [MM]	S [MM]	R
CNGA090304-4N	9.525	3.81	3.18	0.4
CNGA090308-4N				0.8
CNGA090312-4N				1.2
CNGA090316-4N				1.6
CNMA090302-4N	9.525	3.81	3.18	0.2
CNMA090304-4N				0.4
CNMA090308-4N				0.8
CNMA090312-4N				1.2
CNGA160608-4N	15.875	6.35	6.35	0.8
CNGA160612-4N				1.2
CNGA160616-4N				1.6
CNMA160608-4N	15.875	6.35	6.35	0.8
CNMA160612-4N				1.2
CNMA160616-4N				1.6

Designation	D1 [MM]	D2 [MM]	S [MM]	R
CNGA120402-4N	12.7	5.16	4.76	0.2
CNGA120404-4N				0.4
CNGA120408-4N				0.8
CNGA120412-4N				1.2
CNGA120416-4N				1.6
CNMA120402-4N	12.7	5.16	4.76	0.2
CNMA120404-4N				0.4
CNMA120408-4N				0.8
CNMA120412-4N				1.2
CNMA120416-4N				1.6

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

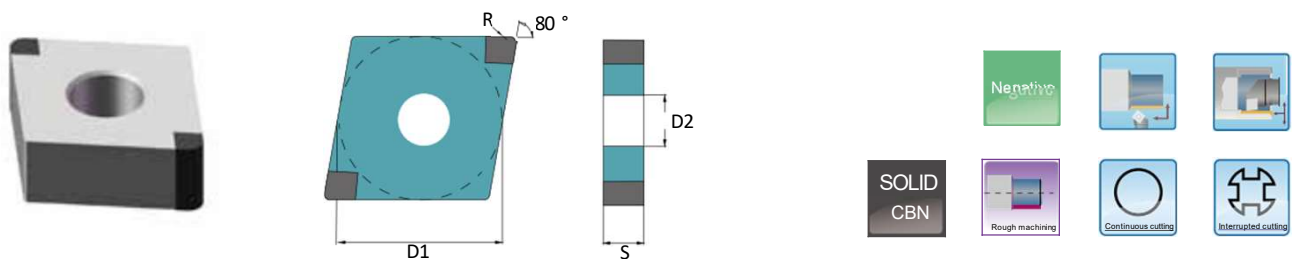
CN GA/CN MA – Tipped CBN insert



Designation	D1 [MM]	D2 [MM]	S [MM]	R
CNGA090304-2N	9.525	3.81	3.18	0.4
CNGA090308-2N				0.8
CNGA090312-2N				1.2
CNGA090316-2N				1.6
CNMA090302-2N	9.525	3.81	3.18	0.2
CNMA090304-2N				0.4
CNMA090308-2N				0.8
CNMA090312-2N				1.2
CNGA160608-2N	15.875	6.35	6.35	0.8
CNGA160612-2N				1.2
CNGA160616-2N				1.6
CNMA160608-2N	15.875	6.35	6.35	0.8
CNMA160612-2N				1.2
CNMA160616-2N				1.6

Designation	D1 [MM]	D2 [MM]	S [MM]	R
CNGA120402-2N	12.7	5.16	4.76	0.2
CNGA120404-2N				0.4
CNGA120408-2N				0.8
CNGA120412-2N				1.2
CNGA120416-2N				1.6
CNMA120402-2N	12.7	5.16	4.76	0.2
CNMA120404-2N				0.4
CNMA120408-2N				0.8
CNMA120412-2N				1.2
CNMA120416-2N				1.6

CN GA/CN MA- Brazed Solid CBN

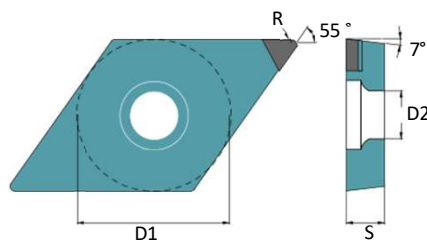
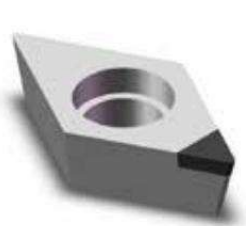


Designation	D1 [MM]	D2 [MM]	S [MM]	R
CNGA120404-2N-BS	12.7	5.16	4.76	0.4
CNGA120408-2N-BS				0.8
CNGA120412-2N-BS				1.2
CNGA120416-2N-BS				1.6

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

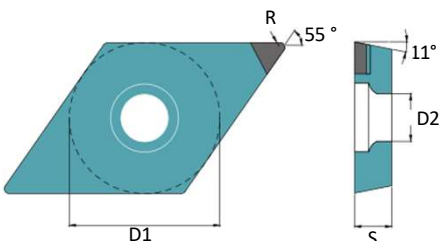
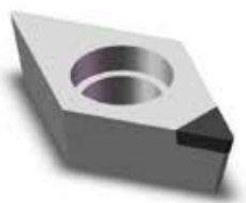
DC GW/DC MW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
DCGW070202-1N	6.35	2.8	2.38	0.2
DCGW070204-1N				0.4
DCGW070208-1N				0.8
DCMW070202-1N	6.35	2.8	2.38	0.2
DCMW070204-1N				0.4
DCMW070208-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
DCGW11T304-1N	9.525	4.4	3.97	0.4
DCGW11T308-1N				0.8
DCGW11T312-1N				1.2
DCMW11T304-1N	9.525	4.4	3.97	0.4
DCMW11T308-1N				0.8
DCMW11T312-1N				1.2

DP GW/DP MW



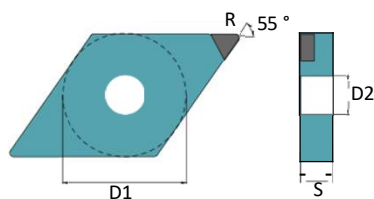
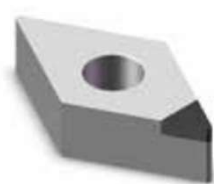
Designation	D1 [MM]	D2 [MM]	S [MM]	R
DPGT070202-1N	6.35	2.8	2.38	0.2
DPGT070204-1N				0.4
DPGT070208-1N				0.8
DPMT070202-1N	6.35	2.8	2.38	0.2
DPMT070204-1N				0.4
DPMT070208-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
DPGT11T304-1N	9.525	4.4	3.97	0.4
DPGT11T308-1N				0.8
DPGT11T312-1N				1.2
DPMT11T304-1N	9.525	4.4	3.97	0.4
DPMT11T308-1N				0.8
DPMT11T312-1N				1.2

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

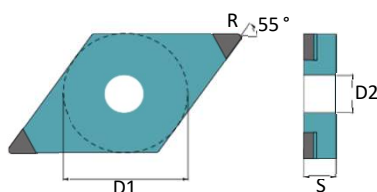
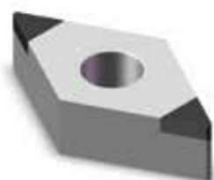
DNGA/DNMA



Designation	D1 [MM]	D2 [MM]	S [MM]	R
DNGA150604-1N	12.7	5.16	6.35	0.4
DNGA150608-1N				0.8
DNGA150612-1N				1.2
DNGA150616-1N				1.6
DNMA150604-1N	12.7	5.16	6.35	0.4
DNMA150608-1N				0.8
DNMA150612-1N				1.2
DNMA150616-1N				1.6

Designation	D1 [MM]	D2 [MM]	S [MM]	R
DNGA110404-1N	9.525	3.81	4.76	0.4
DNGA110408-1N				0.8
DNGA110412-1N				1.2
DNMA110404-1N	9.525	3.81	4.76	0.4
DNMA110408-1N				0.8
DNMA110412-1N				1.2

D NGA/DN MA



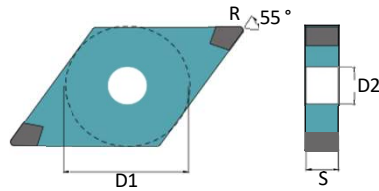
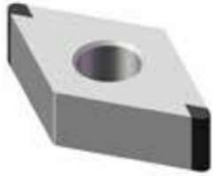
Designation	D1 [MM]	D2 [MM]	S [MM]	R
DNGA150604-2N	12.7	5.16	6.35	0.4
DNGA150608-2N				0.8
DNGA150612-2N				1.2
DNGA150616-2N				1.6
DNMA150604-2N	12.7	5.16	6.35	0.4
DNMA150608-2N				0.8
DNMA150612-2N				1.2
DNMA150616-2N				1.6

Designation	D1 [MM]	D2 [MM]	S [MM]	R
DNGA110404-2N	9.525	3.81	4.76	0.4
DNGA110408-2N				0.8
DNGA110412-2N				1.2
DNMA110404-2N	9.525	3.81	4.76	0.4
DNMA110408-2N				0.8
DNMA110412-2N				1.2

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

DNGA-Brazed Solid CBN

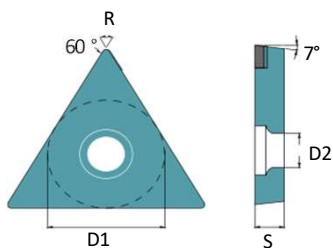
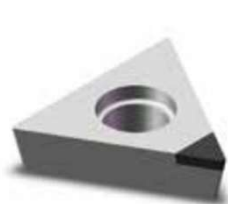


Designation	D1 [MM]	D2 [MM]	S [MM]	R
DNGA150404-2N-BS	12.7	5.16	4.76	0.4
DNGA150408-2N-BS				0.8
DNGA150412-2N-BS				1.2
DNGA150416-2N-BS				1.6
DNGA150604-2N-BS	12.7	5.16	6.35	0.4
DNGA150608-2N-BS				0.8
DNGA150612-2N-BS				1.2
DNGA150616-2N-BS				1.6

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

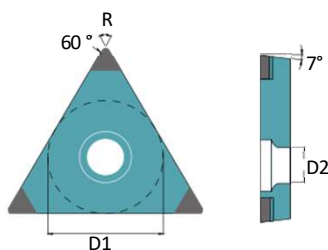
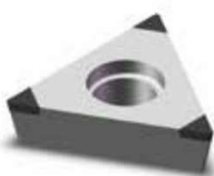
TC GW/TC MW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
TCGW090202-1N	5.56	2.5	2.38	0.2
TCGW090204-1N				0.4
TCGW090208-1N				0.8
TCMW090202-1N	5.56	2.5	2.38	0.2
TCMW090204-1N				0.4
TCMW090208-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
TCGW110202-1N	6.35	2.8	2.38	0.2
TCGW110204-1N				0.4
TCGW110208-1N				0.8
TCMW110202-1N	6.35	2.8	2.38	0.2
TCMW110204-1N				0.4
TCMW110208-1N				0.8

TC GW/TC MW



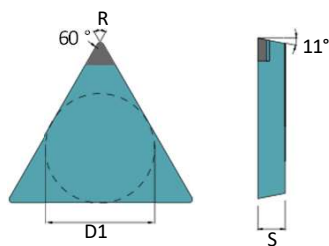
Designation	D1 [MM]	D2 [MM]	S [MM]	R
TCGW090202-3N	5.56	2.5	2.38	0.2
TCGW090204-3N				0.4
TCGW090208-3N				0.8
TCMW090202-3N	5.56	2.5	2.38	0.2
TCMW090204-3N				0.4
TCMW090208-3N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
TCGW110202-3N	6.35	2.8	2.38	0.2
TCGW110204-3N				0.4
TCGW110208-3N				0.8
TCMW110202-3N	6.35	2.8	2.38	0.2
TCMW110204-3N				0.4
TCMW110208-3N				0.8

Order Note

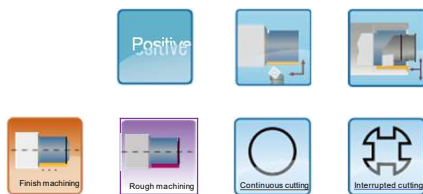
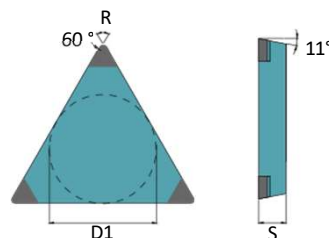
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

TPGN/TP MN



Designation	D1 [MM]	D2 [MM]	S [MM]	R
TPGN110304-1N	6.35	-	3.18	0.4
TPGN110308-1N				0.8
TPMN110304-1N	6.35	-	3.18	0.4
TPMN110308-1N				0.8
TPGN160304-1N	9.525	-	3.18	0.4
TPGN160308-1N				0.8
TPMN160304-1N	9.525	-	3.18	0.4
TPMN160308-1N				0.8

TP GN/TP MN

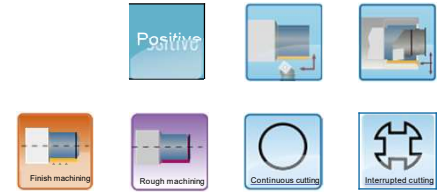
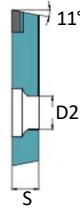
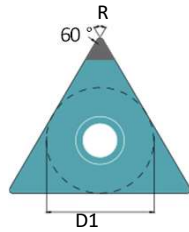
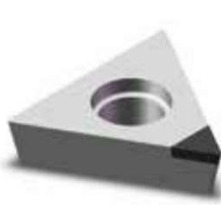


Designation	D1 [MM]	D2 [MM]	S [MM]	R
TPGN110304-3N	6.35	-	3.18	0.4
TPGN110308-3N				0.8
TPMN110304-3N	6.35	-	3.18	0.4
TPMN110308-3N				0.8
TPGN160304-3N	9.525	-	3.18	0.4
TPGN160308-3N				0.8
TPMN160304-3N	9.525	-	3.18	0.4
TPMN160308-3N				0.8

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

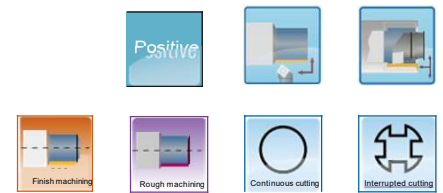
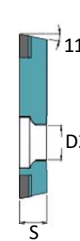
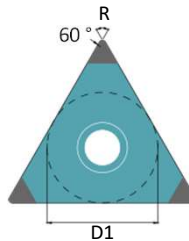
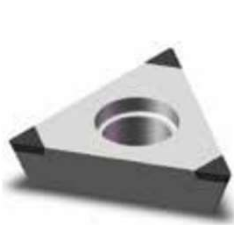
TP GW/TP MW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
TPGW090202-1N	5.56	2.9	2.38	0.2
TPGW090204-1N				0.4
TPGW090208-1N				0.8
TPMW090204-1N	5.56	2.9	2.38	0.4
TPMW090208-1N				0.8
TPGW110304-1N	6.35	3.4	3.18	0.4
TPGW110308-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
TPMW110302-1N	6.35	3.4	3.18	0.2
TPMW110304-1N				0.4
TPMW110308-1N				0.8
TPGW160304-1N	9.525	4.4	3.18	0.4
TPGW160308-1N				0.8
TPMW160304-1N	9.525	4.4	3.18	0.4
TPMW160308-1N				0.8

TP GW/TP MW



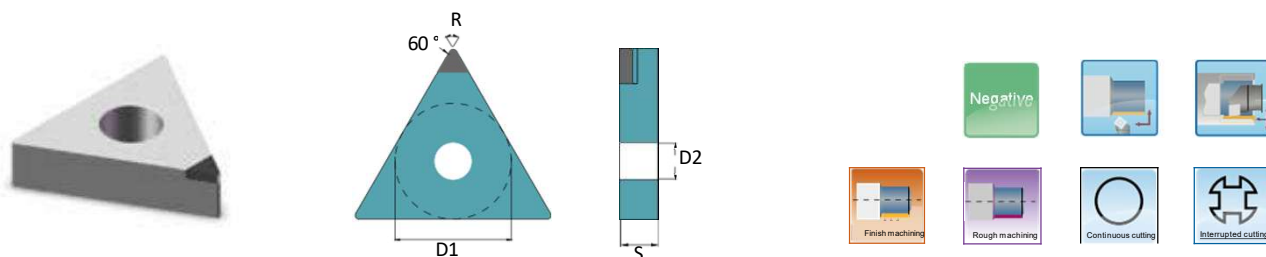
Designation	D1 [MM]	D2 [MM]	S [MM]	R
TPGW090202-3N	5.56	2.9	2.38	0.2
TPGW090204-3N				0.4
TPGW090208-3N				0.8
TPMW090204-3N	5.56	2.9	2.38	0.4
TPMW090208-3N				0.8
TPGW110304-3N	6.35	3.4	3.18	0.4
TPGW110308-3N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
TPMW110302-3N	6.35	3.4	3.18	0.2
TPMW110304-3N				0.4
TPMW110308-3N				0.8
TPGW160304-3N	9.525	4.4	3.18	0.4
TPGW160308-3N				0.8
TPMW160304-3N	9.525	4.4	3.18	0.4
TPMW160308-3N				0.8

Order Note

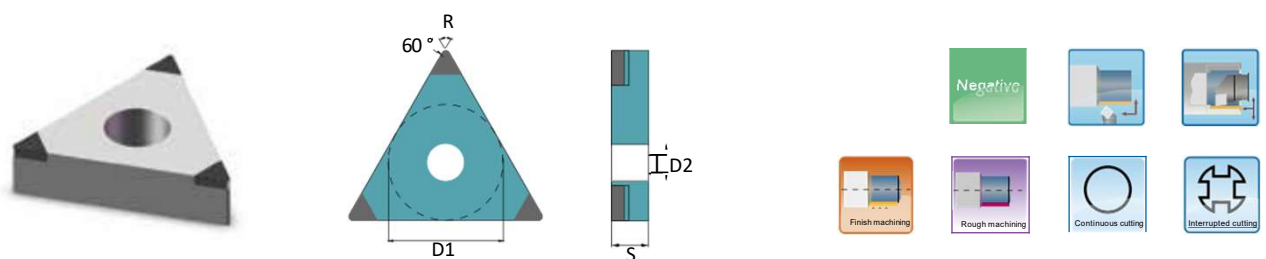
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

TPGA/T NWA



Designation	D1 [MM]	D2 [MM]	S [MM]	R
TNGA160404-1N	9.525	3.81	4.76	0.4
TNGA160408-1N				0.8
TNGA160412-1N				1.2
TNWA160404-1N	9.525	3.81	4.76	0.4
TNWA160408-1N				0.8
TNWA160412-1N				1.2

TNGA/T NWA

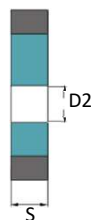
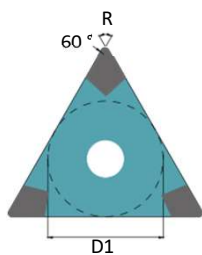
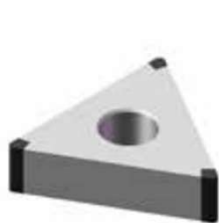


Designation	D1 [MM]	D2 [MM]	S [MM]	R
TNGA160404-3N	9.525	3.81	4.76	0.4
TNGA160408-3N				0.8
TNGA160412-3N				1.2
TNWA160404-3N	9.525	3.81	4.76	0.4
TNWA160408-3N				0.8
TNWA160412-3N				1.2

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

TNGA-Brazed Solid CBN

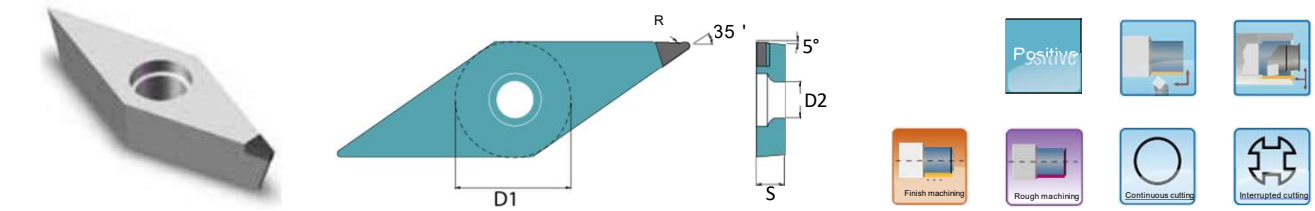


Designation	D1 [MM]	D2 [MM]	S [MM]	R
TNGA160404-3N-BS	9.525	3.81	4.76	0.4
TNGA160408-3N-BS				0.8
TNGA160412-3N-BS				1.2
TNGA220404-3N-BS	12.7	5.16	4.76	0.4
TNGA220408-3N-BS				0.8
TNGA220412-3N-BS				1.2

Order Note

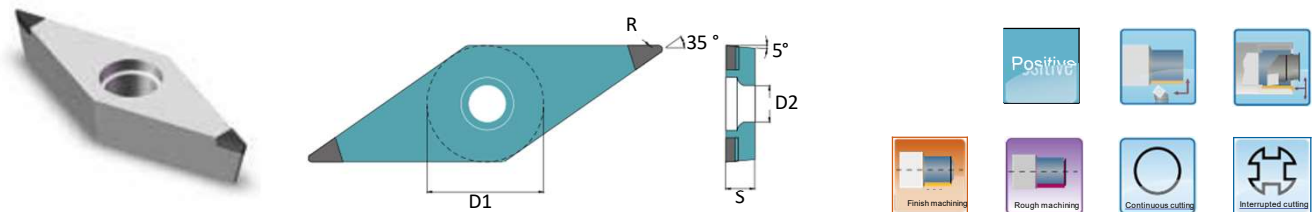
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

VB GW/V BMW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
VBGW160402-1N	9.525	4.4	4.76	0.2
VBGW160404-1N				0.4
VBGW160408-1N				0.8
VBGW160412-1N				1.2
VBMW160402-1N	9.525	4.4	4.76	0.2
VBMW160404-1N				0.4
VBMW160408-1N				0.8
VBMW160412-1N				1.2

VB GW/V BMW

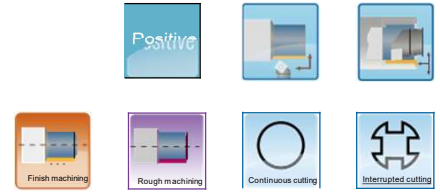
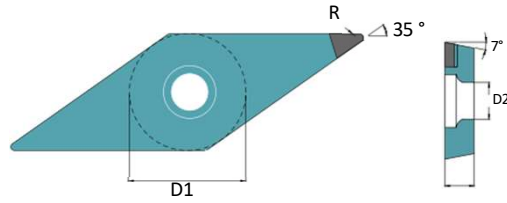
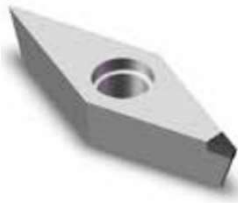


Designation	D1 [MM]	D2 [MM]	S [MM]	R
VBGW160402-2N	9.525	4.4	4.76	0.2
VBGW160404-2N				0.4
VBGW160408-2N				0.8
VBGW160412-2N				1.2
VBMW160402-2N	9.525	4.4	4.76	0.2
VBMW160404-2N				0.4
VBMW160408-2N				0.8
VBMW160412-2N				1.2

Order Note

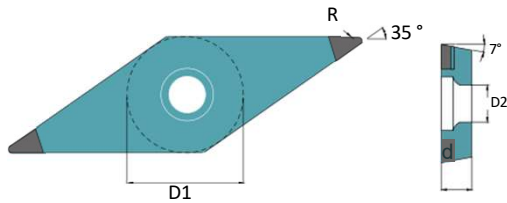
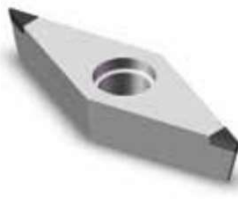
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

VC GW/VC MW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
VCGW160402-1N	9.525	4.4	4.76	0.2
VCGW160404-1N				0.4
VCGW160408-1N				0.8
VCMW160402-1N	9.525	4.4	4.76	0.2
VCMW160404-1N				0.4
VCMW160408-1N				0.8

VC GW/VC MW

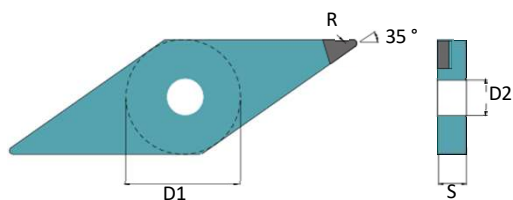


Designation	D1 [MM]	D2 [MM]	S [MM]	R
VCGW160402-2N	9.525	4.4	4.76	0.2
VCGW160404-2N				0.4
VCGW160408-2N				0.8
VCMW160402-2N	9.525	4.4	4.76	0.2
VCMW160404-2N				0.4
VCMW160408-2N				0.8

Order Note

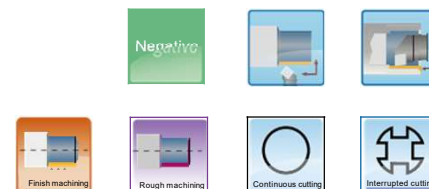
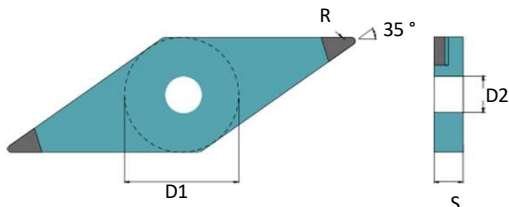
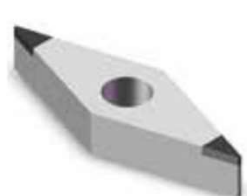
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

VNGW/VNMW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
VNGW160402-1N	9.525	3.81	4.76	0.2
VNGW160404-1N				0.4
VNGW160408-1N				0.8
VNGW160412-1N				1.2
VNMW160402-1N	9.525	3.81	4.76	0.2
VNMW160404-1N				0.4
VNMW160408-1N				0.8
VNMW160412-1N				1.2

VNGW/VNMW

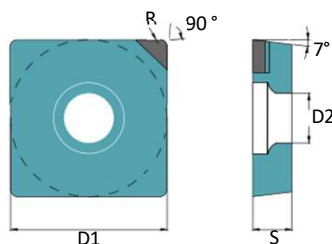
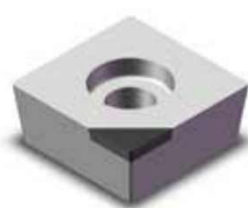


Designation	D1 [MM]	D2 [MM]	S [MM]	R
VNGW160402-2N	9.525	3.81	4.76	0.2
VNGW160404-2N				0.4
VNGW160408-2N				0.8
VNGW160412-2N				1.2
VNMW160402-2N	9.525	3.81	4.76	0.2
VNMW160404-2N				0.4
VNMW160408-2N				0.8
VNMW160412-2N				1.2

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

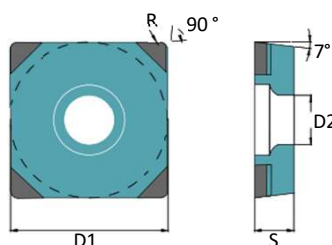
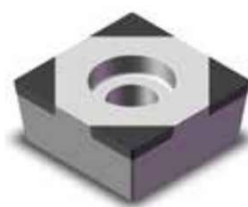
SC GW/SC MW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
SCGW09T304-1N	9.525	4.4	3.97	0.4
SCGW09T308-1N				0.8
SCGW09T312-1N				1.2
SCMW09T304-1N	9.525	4.4	3.97	0.4
SCMW09T308-1N				0.8
SCMW09T312-1N				1.2

Designation	D1 [MM]	D2 [MM]	S [MM]	R
SCGW120404-1N	12.7	5.5	4.76	0.4
SCGW120408-1N				0.8
SCGW120412-1N				1.2
SCMW120404-1N	12.7	5.5	4.76	0.4
SCMW120408-1N				0.8
SCMW120412-1N				1.2

SC GW/SC MW



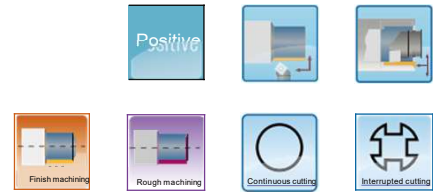
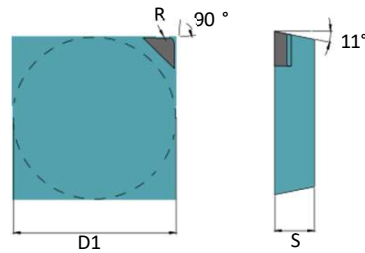
Designation	D1 [MM]	D2 [MM]	S [MM]	R
SCGW09T304-4N	9.525	4.4	3.97	0.4
SCGW09T308-4N				0.8
SCGW09T312-4N				1.2
SCMW09T304-4N	9.525	4.4	3.97	0.4
SCMW09T308-4N				0.8
SCMW09T312-4N				1.2

Designation	D1 [MM]	D2 [MM]	S [MM]	R
SCGW120404-4N	12.7	5.5	4.76	0.4
SCGW120408-4N				0.8
SCGW120412-4N				1.2
SCMW120404-4N	12.7	5.5	4.76	0.4
SCMW120408-4N				0.8
SCMW120412-4N				1.2

Order Note

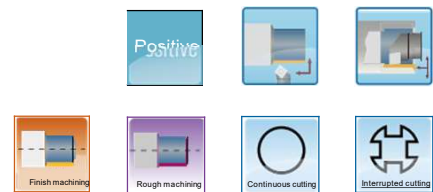
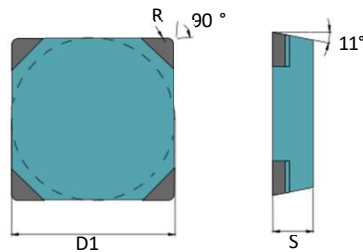
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

SP GN/SP MN



Designation	D1 [MM]	D2 [MM]	S [MM]	R
SPGN120404-1N	12.7	-	4.76	0.4
SPGN120408-1N				0.8
SPGN120412-1N				1.2
SPMN120404-1N	12.7	-	4.76	0.4
SPMN120408-1N				0.8
SPMN120412-1N				1.2

SP GN/SP MN

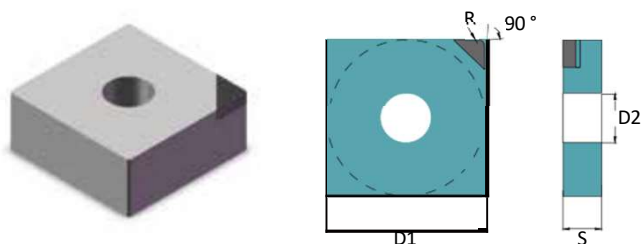


Designation	D1 [MM]	D2 [MM]	S [MM]	R
SPGN120404-4N	12.7	-	4.76	0.4
SPGN120408-4N				0.8
SPGN120412-4N				1.2
SPMN120404-4N	12.7	-	4.76	0.4
SPMN120408-4N				0.8
SPMN120412-4N				1.2

Order Note

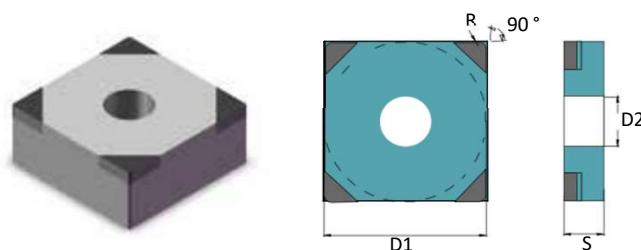
- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

SN GA/SN MA – Tipped CBN insert



Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGA090304-1N	9.525	3.81	3.18	0.4
SNGA090308-1N				0.8
SNGA090312-1N				1.2
SNMA090304-1N	9.525	3.81	3.18	0.4
SNMA090308-1N				0.8
SNMA090312-1N				1.2

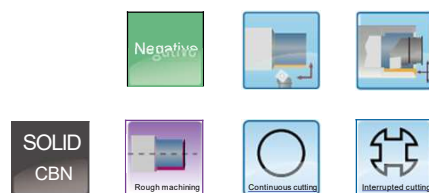
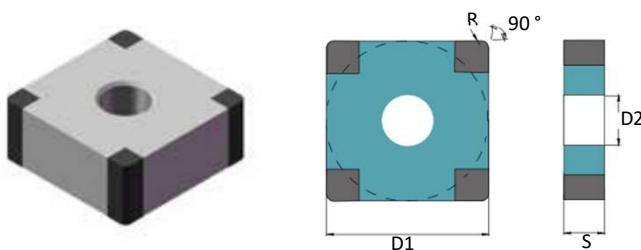
Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGA120404-1N	12.7	5.16	4.76	0.4
SNGA120408-1N				0.8
SNGA120412-1N				1.2
SNMA120404-1N	12.7	5.16	4.76	0.4
SNMA120408-1N				0.8
SNMA120412-1N				1.2



Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGA090304-4N	9.525	3.81	3.18	0.4
SNGA090308-4N				0.8
SNGA090312-4N				1.2
SNMA090304-4N	9.525	3.81	3.18	0.4
SNMA090308-4N				0.8
SNMA090312-4N				1.2

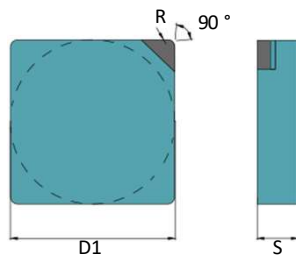
Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGA120408-4N	12.7	5.16	4.76	0.8
SNGA120412-4N				1.2
SNGA120416-4N				1.6
SNMA120408-4N	12.7	5.16	4.76	0.8
SNMA120412-4N				1.2
SNMA120416-4N				1.6

SN GA/SN MA- Brazed Solid CBN



Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGA120404-4N-BS	12.7	5.16	4.76	0.4
SNGA120408-4N-BS				0.8
SNGA120412-4N-BS				1.2

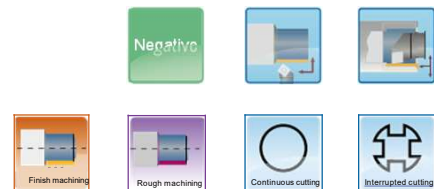
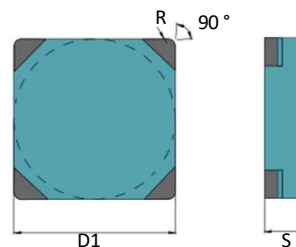
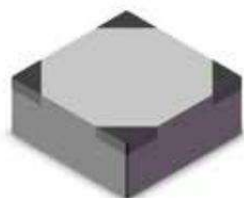
SN GN/SN MN



Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGN090304-1N	9.525	-	3.18	0.4
SNGN090308-1N				0.8
SNGN090312-1N				1.2
SNMN090304-1N	9.525	-	3.18	0.4
SNMN090308-1N				0.8
SNMN090312-1N				1.2

Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGN120404-1N	12.7	-	4.76	0.4
SNGN120408-1N				0.8
SNGN120412-1N				1.2
SNMN120404-1N	12.7	-	4.76	0.4
SNMN120408-1N				0.8
SNMN120412-1N				1.2

SPGN/SPMN

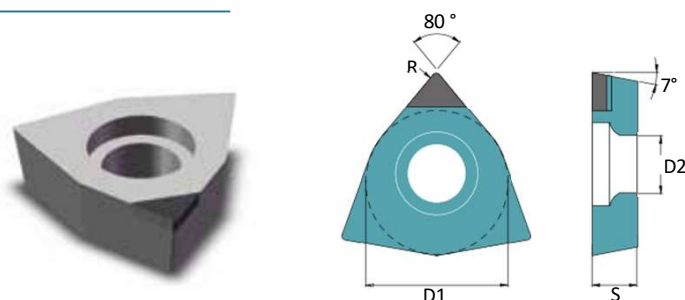


Designation	D1 [MM]	D2 [MM]	S [MM]	R
SNGN090304-4N	9.525	-	3.18	0.4
SNGN090308-4N				0.8
SNGN090312-4N				1.2
SNMN090304-4N	9.525	-	3.18	0.4
SNMN090308-4N				0.8
SNMN090312-4N				1.2

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

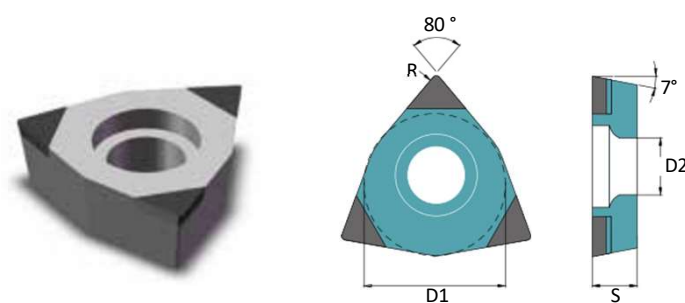
WCGW/WCMW



Designation	D1 [MM]	D2 [MM]	S [MM]	R
WCGW040202-1N	6.35	2.8	2.38	0.2
WCGW040204-1N				0.4
WCGW040208-1N				0.8
WCMW040202-1N	6.35	2.8	2.38	0.2
WCMW040204-1N				0.4
WCMW040208-1N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
WCGT06T304-1N	9.525	4.4	3.97	0.4
WCGT06T308-1N				0.8
WCMT06T304-1N	9.525	4.4	3.97	0.4
WCMT06T308-1N				0.8

WCGW/WCMW



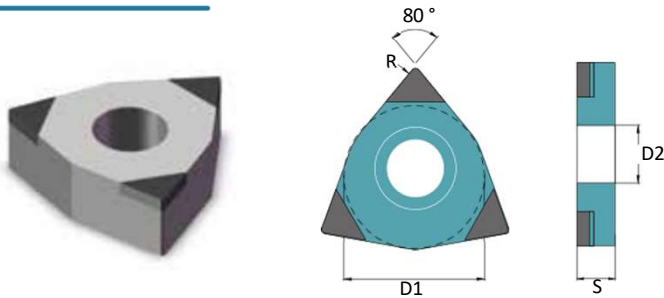
Designation	D1 [MM]	D2 [MM]	S [MM]	R
WCGW040202-3N	6.35	2.8	2.38	0.2
WCGW040204-3N				0.4
WCGW040208-3N				0.8
WCMW040202-3N	6.35	2.8	2.38	0.2
WCMW040204-3N				0.4
WCMW040208-3N				0.8

Designation	D1 [MM]	D2 [MM]	S [MM]	R
WCGT06T304-3N	9.525	4.4	3.97	0.4
WCGT06T308-3N				0.8
WCMT06T304-3N	9.525	4.4	3.97	0.4
WCMT06T308-3N				0.8

Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

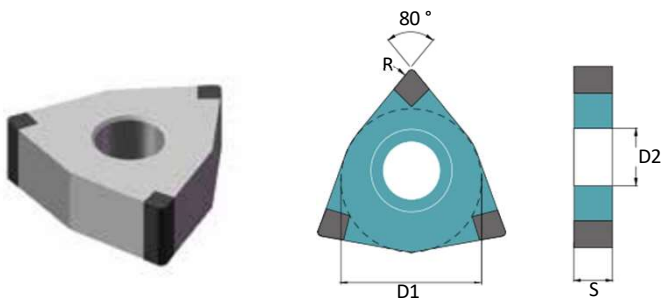
WNGA/WNMA – Tipped CBN insert



Designation	D1 [MM]	D2 [MM]	S [MM]	R
WNGA060404-3N	9.525	3.81	4.76	0.4
WNGA060408-3N				0.8
WNGA060412-3N				1.2
WNGA060416-3N				1.6
WNMA060404-3N	9.525	3.81	4.76	0.4
WNMA060408-3N				0.8
WNMA060412-3N				1.2
WNMA060416-3N				1.6

Designation	D1 [MM]	D2 [MM]	S [MM]	R
WNGA080404-3N	12.7	5.16	4.76	0.4
WNGA080408-3N				0.8
WNGA080412-3N				1.2
WNGA080416-3N				1.6
WNMA080404-3N	12.7	5.16	4.76	0.4
WNMA080408-3N				0.8
WNMA080412-3N				1.2
WNMA080416-3N				1.6

WNGA- Brazed Solid CBN



Designation	D1 [MM]	D2 [MM]	S [MM]	R
WNGA060404-3N-BS	9.525	3.81	4.76	0.4
WNGA060408-3N-BS				0.8
WNGA060412-3N-BS				1.2
WNGA080404-3N-BS	12.7	5.16	4.76	0.4
WNGA080408-3N-BS				0.8
WNGA080412-3N-BS				1.2

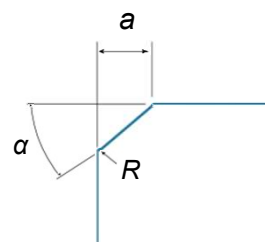
Order Note

- To place an order, please refer to the designation code.
- For the item which is not on the list pls contact our sales to get the quote.

Work Material	Hardness	Cutting Speed V(m/min)	Cutting Depth d(mm)	Feed Rate f(mm/rev)	Recommendation
Hardened Steel	>55HRC	130~210	- 0.5	- 0.5	TBN30
	<56HRC	100~190	- 0.5	0.3~0.5	TBN20
Gray Irons	<55 HRC	600~2500	0.2~2.0	0.5~5.0	TB100
	>55HRC	130~200	0.1~0.5	0.05~1.0	B9700 BK50
Nodular Iron	—	150~350	0.2~2.0	0.1~1.0	TB400 BK50
White and Chrome Iron	—	150~350	0.2~2.0	0.1~0.5	TB400 BK50
		50~100	1.0~3.0	0.2~2.0	
Valve Seat Rings	<350 HV	50~180	0.1~0.5	0.05~0.2	BK50
	>350 HV	50~180	0.1~0.5	0.05~0.2	

Edge preparation

Work Material &Working Mode	chamfer Angle α	Chamfer Weight a(mm)	Blunt Roundness R(mm)
Steel	25°	0.1~0.2	0.01~0.02
Cast Iron	20°	0.1~0.5	<0.01
Interruption Mode	30°	0.2	0.01~0.03



Tips:

- To make sure maximum strength, it's better to use inserts with a larger corner radius.
- The blade chamfer will avoid the edge not to break during the interrupted cutting.
- Don't use the coolant during the continuous cutting.

Checklist for Customized CBN Turning Inserts

Customer Basic Information					
Company Name* :		Contact Person's Name* :		Contact Tel* :	
Demand from End User* : _____ pcs/ order, _____ pcs/ month, _____ pcs/ year					
Machining Information					
Workpiece Information			Insert Information		
Drawing: Yes No			Drawing: Yes No		
Workpiece Name* :		Mode:	Insert Style* :		Insert Specification: Holder/shank:
Workpiece Material* :		Material Grade:	Tips Type* : (L) mm ; (W) mm; (H) mm; (Dia mm)		
Workpiece Hardness* :		Surface Finish Required* :	Cutting Speed V (m/min) *		
Result Required			Feed Rate (f) * : mm/rev Allowance/ Side* : mm		
Processing* :			Depth of Cut (AP1)* : mm Depth of Cut (AP2)* : mm		
○ End face ○ Surface ○ Profile			Cutting Type* : Continuous Medium interrupted Light interrupted Heavy interrupted		
Through-hole Chamfer		Blind hole Others	Coolant Type* : Dry cutting Air Wet cutting Water Oil		
Expected Result:					
Machine Tool Information			Lead Time requested		
Machine Type: M/C CNC lathe (horizontal) Vertical lathe Mill-Turn-machine			1 week 2 weeks others 3 weeks 4 weeks 5 weeks 6 weeks		
Items marked with * required					



ToolingBox[®]

ToolingBox(Beijing) Industrial Technology Co.,Ltd
Rm503, Building A, Langting Plaza, No.8 Chaoyang
Road, Chaoyang District, 100024,
Beijing P.R of China

Phone: +86 10 5290 2905

Email: sales@toolingbox.com

Company Web: www.toolingbox.com

