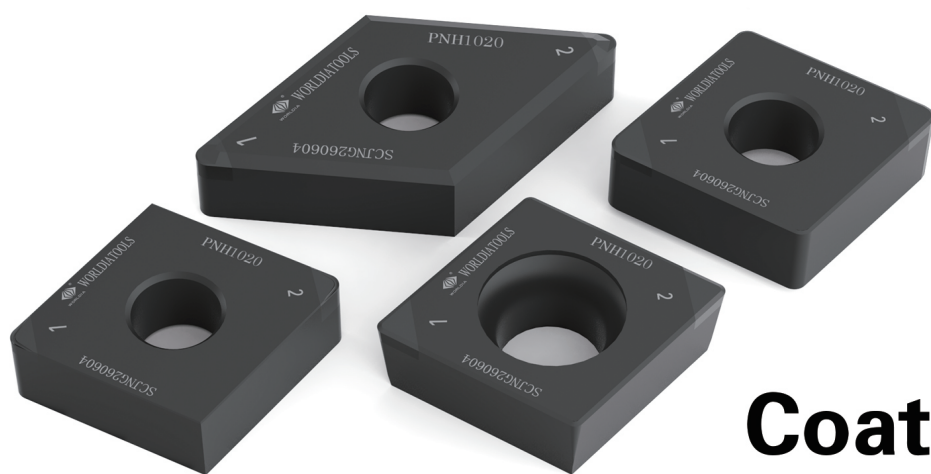
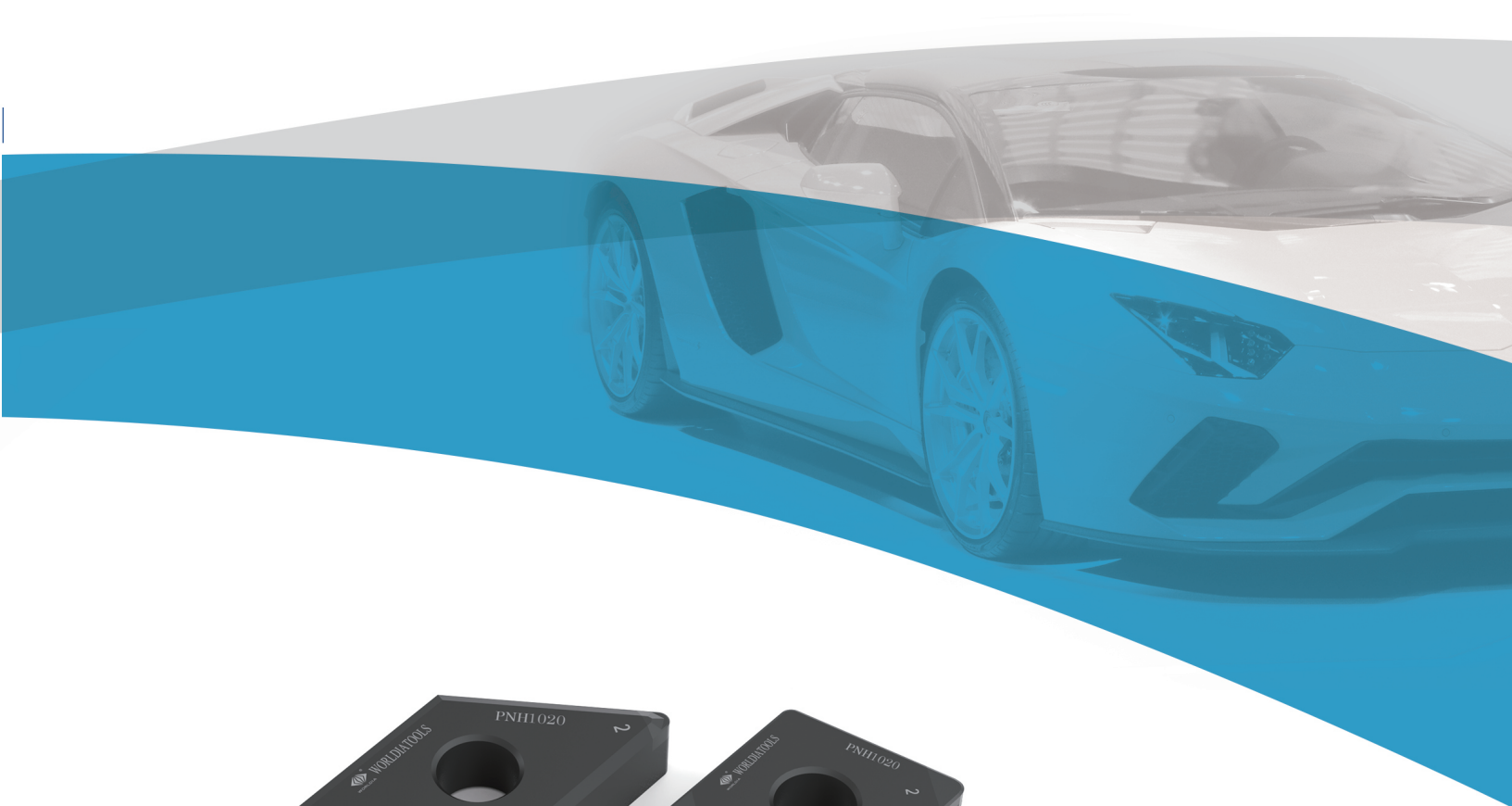




01-T15-WBV11 EN

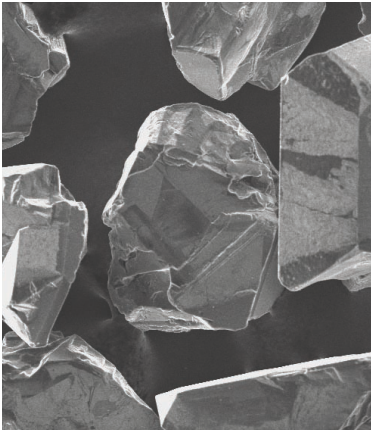


Coated PCBN Insert For Hardened Steel

北京沃尔德金刚石工具股份有限公司
BEIJING WORLDIA DIAMOND TOOLS CO.,LTD.

PCBN Material Introduction

Cubic boron nitride is the second hardest material in the world invented successfully in 1957; the microhardness of CBN's single crystal is HV8000-9000 while the hardness of PCBN is HV2500-5000, so it is considerably better abrasive resistance than tungsten carbide and ceramics. With a higher ability of oxidation resistance within 1000 °C, CBN will do not have any chemical reaction together with ferrous material in 1200-1300 °C. So it is unique for CBN material dry cutting ferrous materials. The principal application areas for CBN cutting tools are hardened steels, cast irons and sintered irons as well as powder metallurgy components.



Characteristic

Benefits and Features;

- 1. Excellent surface finish
- 2. High speed turning, high performance
- 3. More flexibility in machining
- 4. Less investment in machines
- 5. Not required coolant
- 6. Easier in recycling and treatment of chips
- 7. Easier in removal of outlet of chips

PCBN tools instruction;

- 1. Required larger dimension of holders
- 2. Required shorter extended length of cutting tools
- 3. Required high-duty of fixtures
- 4. Required larger clamping area of workpiece
- 5 No need use coolant in interrupted cutting
- 6. Properly applied coolant in turning hardened steel
- 7. Keep the consistency of cutting fluid flow in machining
- 8. Controlled the thermal stability of work piece

■ Material Group (ISO513 Standard)

P

P: Steel

M

M: Stainless Steel

K

K: Cast Iron

H

H: Hardened Materials

N

N: Non-Ferrous Materials

S

S: High-Temp Alloys

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沃尔德

Coated PCBN Insert

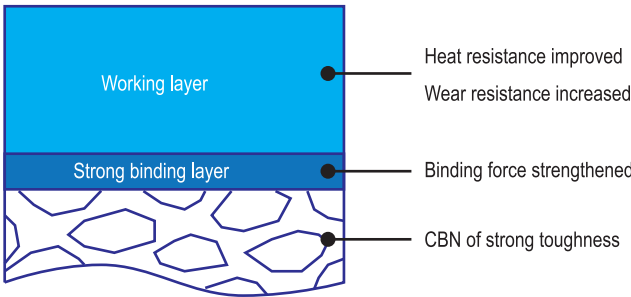


Film features

C₂

The film is applicable for continuous, light and heavily interrupted processing of hardened steel with excellent universal performance.

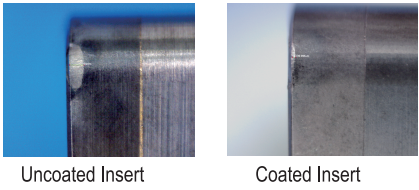
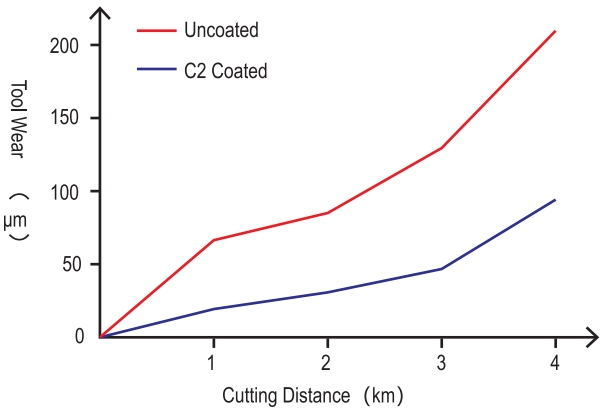
CBN Basic material and film structure



Recommended Cutting conditions

Workpiece Material	Cutting Data Recommendations				
	PCBN Grades	Cutting Speed (m/min)	Cutting Depth (mm)	Feed Rate (mm/r)	Characteristics
H	PNH0120	180(150-250)	0.1(0.05-0.3)	0.03-0.2	Continue Cutting
	PNH1020	150(80-230)	0.1(0.05-0.5)	0.05-0.25	Light Interrupt
	PNH2018	100(50-150)	0.1(0.05-0.5)	0.05-0.3	Interrupt
	PNH3019	100(50-150)	0.1(0.05-0.5)	0.05-0.3	Heavy Interrupt

Cutting performance



Material: GCr15 HRC58-62°
 Tool: CNGA120408-2N SLST22C2 S0102510
 Cutting Data: Vc=150m/min f=0.1mm/rev ap=0.15mm

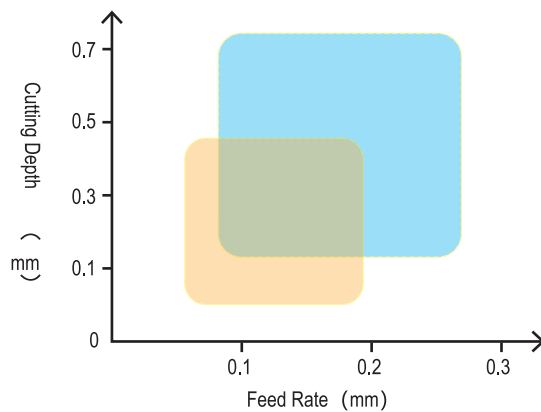
Coated PCBN Insert with Chip-breaker/ Wiper

■ Chip-breaker PCBN Insert

CBRB/CBC1

Two types of chip breaker, Suitable for hardened steel processing, cutting depth : 0.1~1mm. Excellent chip breaking performance can be achieved.

■ Application



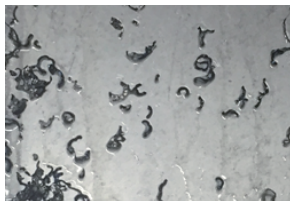
CBC1



CBRB

■ Cutting performance

CBC1

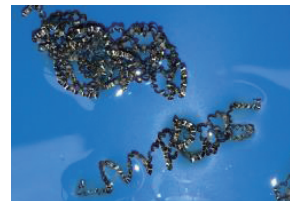


Material: Hardened Steel HRC60-65°

Tool: CNGM120408-2N SLCBC122C2

Cutting Data: $V_c=150\text{m/min}$ $f=0.12\text{mm/rev}$ $a_p=0.15\text{mm}$

CBRB



Material: 20CrMoTi HRC58°

Tool: DNGM150408-2N SLCBRB30C2

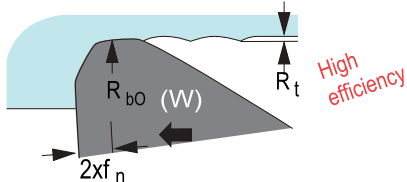
Cutting Data: $V_c=160\text{m/min}$ $f=0.15\text{mm/rev}$ $a_p=0.4\text{mm}$

■ Wiper PCBN inserts

Wiper PCBN inserts could improve high quality surface and high efficiency compare with standard nose radius.

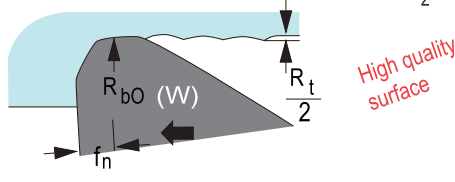
With the same R_t ,

Wiper inserts increase double feed rate($2xf_n$).



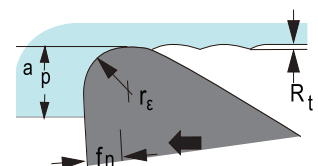
Under the same f_n ,

Wiper inserts improve the surface quality().



$\frac{R_t}{2}$

Standard nose radius.



- Wiper PCBN inserts must match with right type of holder.
- Wiper PCBN inserts with high cutting resistance are suitable for high rigidity machine tool and workpiece.

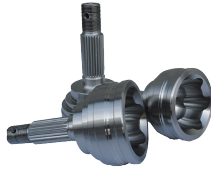
Processing Case of Coated PCBN Insert

■ CV Joints of auto parts

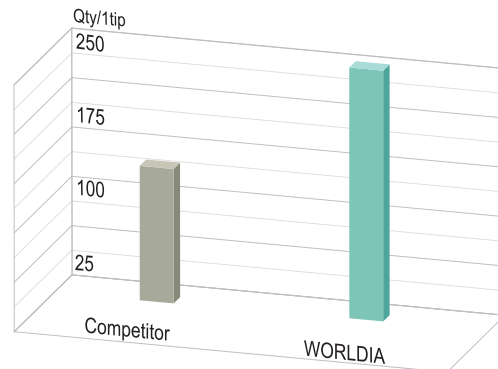
Material: 20CrMoTi

Hardness: HRC58-62°

Finishing boring and profile machining



PCBN Grade	Competitor	WORLDIA PNH2018
Insert type	TNGA160416-3N	TNGA160416-3N
Speed(m/min)	200	160
Feed(mm/r)	0.125	0.125
Cutting depth(mm)	0.2	0.2
Qty/1tip	150	240
Comparison of tool life	100%	160%



■ Motor gear

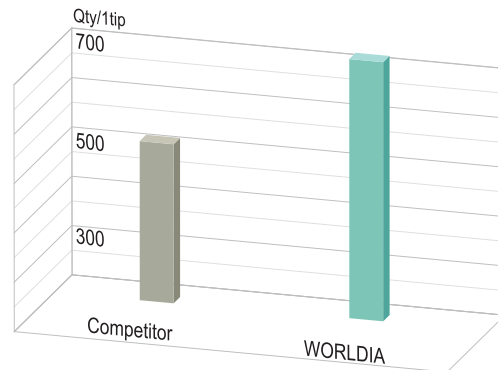
Material: Hardened Steel

Hardness: HRC55°

Finishing surface machining



PCBN Grade	Competitor	WORLDIA PNH0120
Insert type	TNGA160408-3N	TNGA160408-3N
Speed(m/min)	120	120
Feed(mm/r)	0.04	0.04
Cutting depth(mm)	0.08	0.08
Qty/1tip	505	700
Comparison of tool life	100%	139%

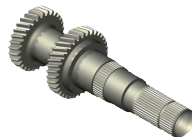


■ Hollow shaft

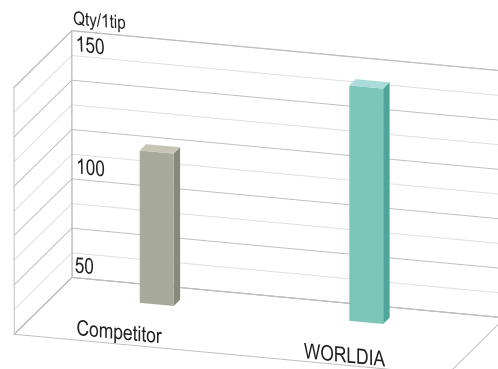
Material: 20CrMnTi

Hardness: HRC55°

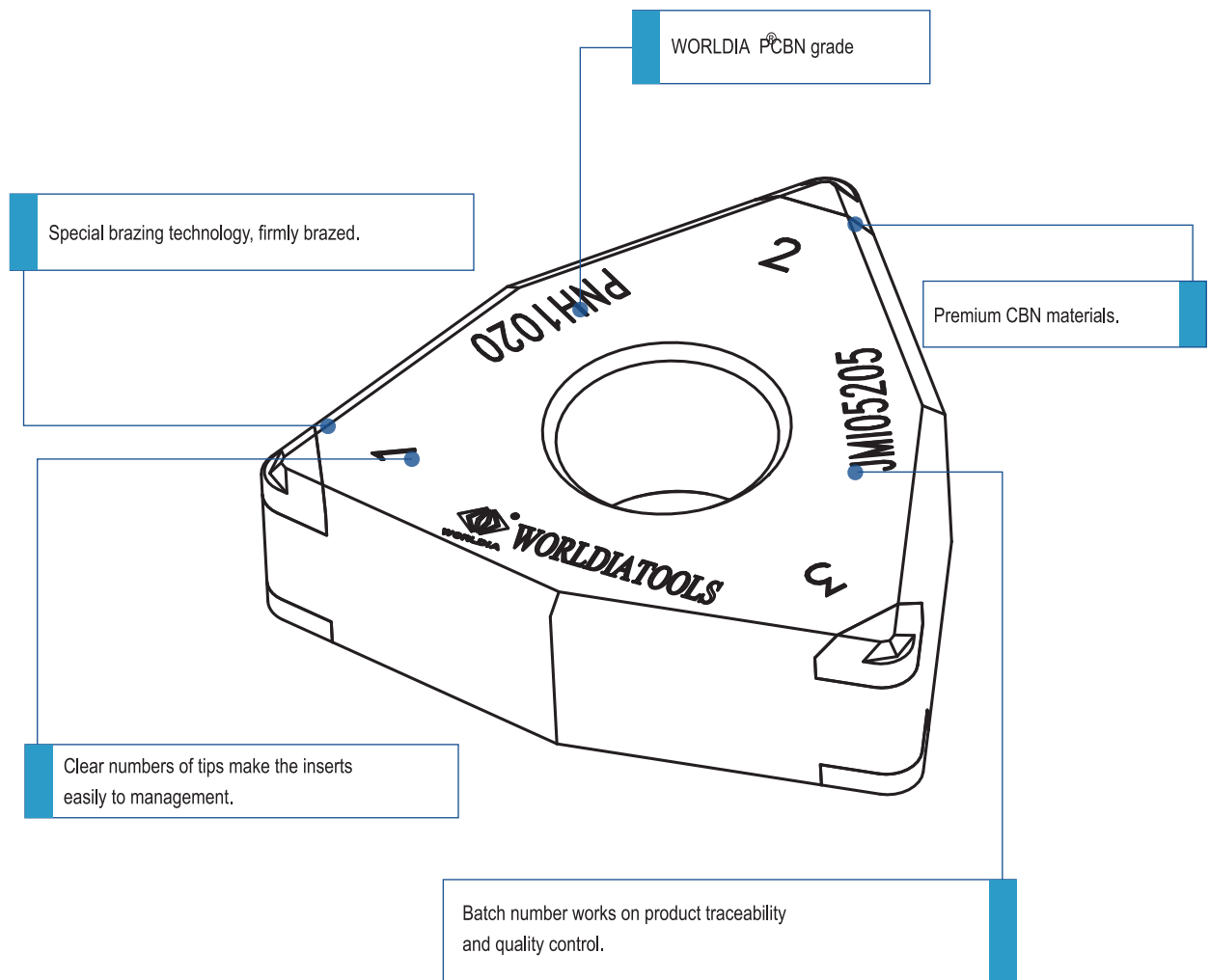
Finishing inner hole machining



PCBN Grade	Competitor	WORLDIA PNH1020
Insert type	TCGW090204-3N	TCGW090204-3N
Speed(m/min)	150	180
Feed(mm/r)	0.05	0.05
Cutting depth(mm)	0.1	0.1
Qty/1tip	130	200
Comparison of tool life	100%	154%



Identification code and features



ISO

C	C	M	W	09	T3	04	1	N	S	010	20	05	CB	ST	22	C2	PNH1020
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

ANSI

C	C	M	W	3	(2.5)	1	1	N	S	010	20	05	CB	ST	22	C2	PNH1020
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Coding Rule of PCBN Inserts

1 Shape					
	H	120°		C	80°
	O	135°		D	55°
	P	108°		E	75°
	R			M	86°
	S	90°		V	35°
	T	60°		W	80°
				L	90°
				A	85°
				B	82°
				K	55°

2 Clearance Angle											
	A		E		P						
	B		F		O						
	C		G								
	D		N								

4 Standard, Chipbreaker									
	N		G		B				
	R		W		H				
	F		T		C				
	A		Q		J				
	M		U	Other	X				

3 Tolerance-ISO				Tolerance-ANSI				
	Code	inch(mm)			Code	inch		
		m	s	IC		m	ic	s
	C	±0.013	±0.025	±0.025	C	±.0005	±.001	±.001
	H	±0.013	±0.025	±0.013	H	±.0005	±.0005	±.001
	E	±0.025	±0.025	±0.025	E	±.001	±.001	±.001
	G	±0.025	±0.13	±0.025	G	±.001	±.001	±.005
	K	±0.013	±0.025	±0.05~±0.13	K	±.0005	±.002-.005	±.001
	M	±0.08~±0.18	±0.13	±0.05~±0.13	M	±.002-.005	±.002-.005	±.005
	U	±0.13~±0.38	±0.13	±0.08~±0.25	U	±.005-.012	±.005-.010	±.005

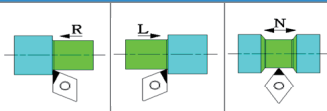
5 Inscribed Circle Dia.									
ISO							ANSI		
C	D	R	S	T	V	W	mm	Code	IC Size
S4	04	03	03	06	-	-	3.97	(1.2)	5/32
04	05	04	04	08	08	S3	4.76	(1.5)	3/16
05	06	05	05	09	09	03	5.56	(1.8)	7/32
-	-	06	-	-	-	-	6	-	-
06	07	06	06	11	11	04	6.35	2	1/4
08	09	07	07	13	13	05	7.94	(2.5)	5/16
-	-	08	-	-	-	-	8	-	-
09	11	09	09	16	16	06	9.525	3	3/8
-	-	10	-	-	-	-	10	-	-
-	-	12	-	-	-	-	12	-	-
12	15	12	12	22	22	08	12.7	4	1/2
16	19	15	15	27	27	10	15.875	5	5/8
-	-	16	-	-	-	-	16	-	-
19	23	19	19	33	33	13	19.05	6	3/4
-	-	20	-	-	-	-	20	-	-
22	27	22	22	38	38	15	22.225	7	7/8
-	-	25	-	-	-	-	25	-	-
25	31	25	25	44	44	17	25.4	8	1
32	38	31	31	54	54	21	31.75	10	1-1/4
-	-	32	-	-	-	-	32	-	-

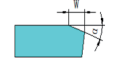
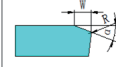
6 Thickness			
ISO		ANSI	
Code	Size	Code	Size
S	mm	S	inch
01	1.59	1	1/16
02	2.38	(1.5)	3/32
T2	2.78	-	-
03	3.18	2	1/8
T3	3.97	(2.5)	5/32
04	4.76	3	3/16
05	5.56	(3.5)	7/32
06	6.35	4	1/4
07	7.94	5	5/16
09	9.525	6	3/8

7 Nose radius			
ISO		ANSI	
Code	Size	Code	Size
R _c	mm	R _c	inch
00		00	.000
003	0.03	(0.1)	.001
01	0.1	(0.2)	.004
02	0.2	(0.5)	.008
04	0.4	1	1/64
08	0.8	2	1/32
12	1.2	3	3/64
16	1.6	4	1/16
20	2.0	5	5/64
24	2.4	6	3/32
28	2.8	7	7/64
32	3.2	8	1/8
M0		0	circular

8 Edges						
Code	1	2	3	4	6	8
notes	1 edge	2 edges	3 edges	4 edges	6 edges	8 edges

9 Cutting Direction			
Code	R	L	N
notes	R	L	N

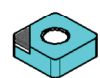


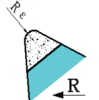
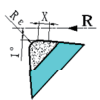
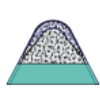
10 Cutting Edge Design			
E	T	S	F
Honed	Chamfered	Chamfered+Honed	Sharp Edge
			

11 Chamfered Width						
Code	000	005	010	015	020	030

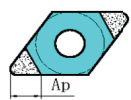
12 Chamfered Angle									
Code	α	00	10	15	20	25	30	35	45
Size	$^{\circ}$	-	10	15	20	25	30	35	45

13 Honed Size						
Code	00	02	05	10	20	30
Size	-	0.002	0.005	0.01	0.02	0.03

14 Insert type						
SF	SL	SS	CB	CS	SWW	SWU
Full Face	Solid Tipped Corner	Solid CBN	Standard Tipped Corners	Standard Full Edge	Solid Tipped Corners Type 'W'	Solid Tipped Corners Type 'U'
						

15 Cutting Edge Design			
ST	WG	CBRB	CBC1
Nose Radius	Wiper	Chip Breaker	Chip Breaker
			

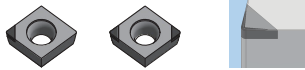
16 Cutting Edge Length						
Code	Ap	22	25	28	30	40
Size		2.2	2.5	2.8	3.0	4.0



17 Surface Treatment			
S	Uncoated	C1	Coated
		R & D	

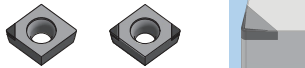
Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

CC 80° PCBN Positive Inserts



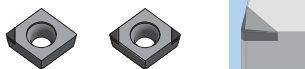
Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGT060202-1N S0052510	SLCBC122C2	●	●	●	●	CCGT2(1.5)(0.5)-1N S0052510	SLCBC122C2	6.35	2.8	2.38	0.2	2.2
	CCGT060204-1N S0052510		●	●	●	●	CCGT2(1.5)1-1N S0052510					0.4	
	CCGT060208-1N S0052510		●	●	●	●	CCGT2(1.5)2-1N S0052510					0.8	
	CCGT060202-2N S0052510		●	●	●	●	CCGT2(1.5)(0.5)-2N S0052510					0.2	
	CCGT060204-2N S0052510		●	●	●	●	CCGT2(1.5)1-2N S0052510					0.4	
	CCGT060208-2N S0052510		●	●	●	●	CCGT2(1.5)2-2N S0052510					0.8	

CC 80° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGT09T302-1N S0052510	SLCBC122C2	●	●	●	●	CCGT3(2.5)(0.5)-1N S0052510	SLCBC122C2	9.525	4.4	3.97	0.2	2.2
	CCGT09T304-1N S0052510		●	●	●	●	CCGT3(2.5)1-1N S0052510					0.4	
	CCGT09T308-1N S0052510		●	●	●	●	CCGT3(2.5)2-1N S0052510					0.8	
	CCGT09T302-2N S0052510		●	●	●	●	CCGT3(2.5)(0.5)-2N S0052510					0.2	
	CCGT09T304-2N S0052510		●	●	●	●	CCGT3(2.5)1-2N S0052510					0.4	
	CCGT09T308-2N S0052510		●	●	●	●	CCGT3(2.5)2-2N S0052510					0.8	

CC 80° PCBN Positive Inserts



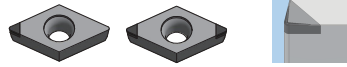
Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGT120402-1N S0052510	SLCBC122C2	●	●	●	●	CCGT43(0.5)-1N S0052510	SLCBC122C2	12.7	5.5	4.76	0.2	2.2
	CCGT120404-1N S0052510		●	●	●	●	CCGT431-1N S0052510					0.4	
	CCGT120408-1N S0052510		●	●	●	●	CCGT432-1N S0052510					0.8	
	CCGT120412-1N S0052510		●	●	●	●	CCGT433-1N S0052510					1.2	
	CCGT120402-2N S0052510		●	●	●	●	CCGT43(0.5)-2N S0052510					0.2	
	CCGT120404-2N S0052510		●	●	●	●	CCGT431-2N S0052510					0.4	
	CCGT120408-2N S0052510		●	●	●	●	CCGT432-2N S0052510					0.8	
	CCGT120412-2N S0052510		●	●	●	●	CCGT433-2N S0052510					1.2	

Examples: ISO: CCGT120408-2N S0052510 SLCBC122C2 PNH1020
ANSI: CCGT432-2N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

DC

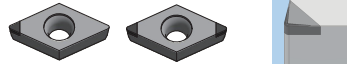
55° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGT070202-1N S0052510	SLCBC122C2	●	●	●	●	DCGT2(1.5)(0.5)-1N S0052510	SLCBC122C2	6.35	2.8	2.38	0.2	2.2
	DCGT070204-1N S0052510		●	●	●	●	DCGT2(1.5)1-1N S0052510					0.4	
	DCGT070208-1N S0052510		●	●	●	●	DCGT2(1.5)2-1N S0052510					0.8	
	DCGT070202-2N S0052510		●	●	●	●	DCGT2(1.5)(0.5)-2N S0052510					0.2	
	DCGT070204-2N S0052510		●	●	●	●	DCGT2(1.5)1-2N S0052510					0.4	
	DCGT070208-2N S0052510		●	●	●	●	DCGT2(1.5)2-2N S0052510					0.8	

DC

55° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGT11T302-1N S0052510	SLCBC122C2	●	●	●	●	DCGT3(2.5)(0.5)-1N S0052510	SLCBC122C2	9.525	4.4	3.97	0.2	2.2
	DCGT11T304-1N S0052510		●	●	●	●	DCGT3(2.5)1-1N S0052510					0.4	
	DCGT11T308-1N S0052510		●	●	●	●	DCGT3(2.5)2-1N S0052510					0.8	
	DCGT11T312-1N S0052510		●	●	●	●	DCGT3(2.5)3-1N S0052510					1.2	
	DCGT11T302-2N S0052510		●	●	●	●	DCGT3(2.5)(0.5)-2N S0052510					0.2	
	DCGT11T304-2N S0052510		●	●	●	●	DCGT3(2.5)1-2N S0052510					0.4	
	DCGT11T308-2N S0052510		●	●	●	●	DCGT3(2.5)2-2N S0052510					0.8	
	DCGT11T312-2N S0052510		●	●	●	●	DCGT3(2.5)3-2N S0052510					1.2	

Examples: ISO: DCGT11T308-2N S0052510 SLCBC122C2 PNH1020
ANSI: DCGT3(2.5)2-2N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

TP 60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT080202-1N S0052510	SLCBC122C2	•	•	•	•	TPGT(1.5)(1.5)(0.5)-1N S0052510	SLCBC122C2	4.76	2.4	2.38	0.2	2.2
	TPGT080204-1N S0052510		•	•	•	•	TPGT(1.5)(1.5)1-1N S0052510					0.4	
	TPGT080202-3N S0052510		•	•	•	•	TPGT(1.5)(1.5)(0.5)-3N S0052510					0.2	
	TPGT080204-3N S0052510		•	•	•	•	TPGT(1.5)(1.5)1-3N S0052510					0.4	

TP 60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT090202-1N S0052510	SLCBC122C2	•	•	•	•	TPGT(1.8)(1.5)(0.5)-1N S0052510	SLCBC122C2	5.56	2.8	2.38	0.2	2.2
	TPGT090204-1N S0052510		•	•	•	•	TPGT(1.8)(1.5)1-1N S0052510					0.4	
	TPGT090208-1N S0052510		•	•	•	•	TPGT(1.8)(1.5)2-1N S0052510					0.8	
	TPGT090202-3N S0052510		•	•	•	•	TPGT(1.8)(1.5)(0.5)-3N S0052510					0.2	
	TPGT090204-3N S0052510		•	•	•	•	TPGT(1.8)(1.5)1-3N S0052510					0.4	
	TPGT090208-3N S0052510		•	•	•	•	TPGT(1.8)(1.5)2-3N S0052510					0.8	

TP 60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT110302-1N S0052510	SLCBC122C2	•	•	•	•	TPGT22(0.5)-1N S0052510	SLCBC122C2	6.35	3.3	3.18	0.2	2.2
	TPGT110304-1N S0052510		•	•	•	•	TPGT221-1N S0052510					0.4	
	TPGT110302-3N S0052510		•	•	•	•	TPGT22(0.5)-3N S0052510					0.2	
	TPGT110304-3N S0052510		•	•	•	•	TPGT221-3N S0052510					0.4	

Examples: ISO: TPGT090208-3N S0052510 SLCBC122C2 PNH1020

ANSI: TPGT3(1.8)(1.5)2-3N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

TP

60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT160302-1N S0052510	SLCBC122C2	•	•	•	•	TPGT32(0.5)-1N S0052510	SLCBC122C2	9.525	4.4	3.18	0.2	2.2
	TPGT160304-1N S0052510		•	•	•	•	TPGT321-1N S0052510					0.4	
	TPGT160308-1N S0052510		•	•	•	•	TPGT322-1N S0052510					0.8	
	TPGT160302-3N S0052510		•	•	•	•	TPGT32(0.5)-3N S0052510					0.2	
	TPGT160304-3N S0052510		•	•	•	•	TPGT321-3N S0052510					0.4	
	TPGT160308-3N S0052510		•	•	•	•	TPGT322-3N S0052510					0.8	

TP

60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT160402-1N S0052510	SLCBC122C2	•	•	•	•	TPGT33(0.5)-1N S0052510	SLCBC122C2	9.525	4.4	4.76	0.2	2.2
	TPGT160404-1N S0052510		•	•	•	•	TPGT331-1N S0052510					0.4	
	TPGT160408-1N S0052510		•	•	•	•	TPGT332-1N S0052510					0.8	
	TPGT160402-3N S0052510		•	•	•	•	TPGT33(0.5)-3N S0052510					0.2	
	TPGT160404-3N S0052510		•	•	•	•	TPGT331-3N S0052510					0.4	
	TPGT160408-3N S0052510		•	•	•	•	TPGT332-3N S0052510					0.8	

Examples: ISO: TPGT160408-3N S0052510 SLCBC122C2 PNH1020
ANSI: TPGT322-3N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

VB

35° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH12018	PNH2018	PNH3019			ic	ød	s	r	la
	VBGT110302-1N S0052510	SLCBC122C2	●	●	●	●	VBGT22(05)-1N S0052510	SLCBC122C2	6.35	2.8	3.18	0.2	2.2
	VBGT110304-1N S0052510		●	●	●	●	VBGT221-1N S0052510					0.4	
	VBGT110308-1N S0052510		●	●	●	●	VBGT222-1N S0052510					0.8	
	VBGT110302-2N S0052510		●	●	●	●	VBGT22(05)-2N S0052510					0.2	
	VBGT110304-2N S0052510		●	●	●	●	VBGT221-2N S0052510					0.4	
	VBGT110308-2N S0052510		●	●	●	●	VBGT222-2N S0052510					0.8	

VB

35° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH12018	PNH2018	PNH3019			ic	ød	s	r	la
	VBGT160402-1N S0052510	SLCBC122C2	●	●	●	●	VBGT33(0.5)-1N S0052510	SLCBC122C2	9.525	4.4	4.76	0.2	2.2
	VBGT160404-1N S0052510		●	●	●	●	VBGT331-1N S0052510					0.4	
	VBGT160408-1N S0052510		●	●	●	●	VBGT332-1N S0052510					0.8	
	VBGT160412-1N S0052510		●	●	●	●	VBGT333-1N S0052510					1.2	
	VBGT160402-2N S0052510		●	●	●	●	VBGT33(0.5)-2N S0052510					0.2	
	VBGT160404-2N S0052510		●	●	●	●	VBGT331-2N S0052510					0.4	
	VBGT160408-2N S0052510		●	●	●	●	VBGT332-2N S0052510					0.8	
	VBGT160412-2N S0052510		●	●	●	●	VBGT333-2N S0052510					1.2	

VC

35° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH12018	PNH2018	PNH3019			ic	ød	s	r	la
	VCGT080202-1N S0052510	SLCBC122C2	●	●	●	●	VCGT(1.5)(1.5)(0.5)-1N S0052510	SLCBC122C2	4.76	2.2	2.38	0.2	2.2
	VCGT080204-1N S0052510		●	●	●	●	VCGT(1.5)(1.5)1-1N S0052510					0.4	
	VCGT080208-1N S0052510		●	●	●	●	VCGT(1.5)(1.5)2-1N S0052510					0.8	
	VCGT080202-2N S0052510		●	●	●	●	VCGT(1.5)(1.5)(0.5)-2N S0052510					0.2	
	VCGT080204-2N S0052510		●	●	●	●	VCGT(1.5)(1.5)1-2N S0052510					0.4	
	VCGT080208-2N S0052510		●	●	●	●	VCGT(1.5)(1.5)2-2N S0052510					0.8	

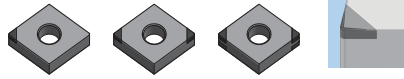
Examples: ISO: VCGT080202-1N S0052510 SLCBC122C2 PNH1020

ANSI: VCGT(1.5)(1.5)(0.5)-1N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

CN

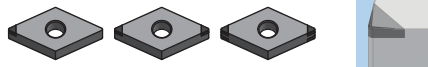
80° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CNGM120402-1N S0052510	SLCBC122C2	●	●	●	●	CNGM43(0.5)-1N S0052510	SLCBC122C2	12.7	5.16	4.76	0.2	2.2
	CNGM120404-1N S0052510		●	●	●	●	CNGM431-1N S0052510					0.4	
	CNGM120408-1N S0052510		●	●	●	●	CNGM432-1N S0052510					0.8	
	CNGM120412-1N S0052510		●	●	●	●	CNGM433-1N S0052510					1.2	
	CNGM120402-2N S0052510		●	●	●	●	CNGM43(0.5)-2N S0052510					0.2	
	CNGM120404-2N S0052510		●	●	●	●	CNGM431-2N S0052510					0.4	
	CNGM120408-2N S0052510		●	●	●	●	CNGM432-2N S0052510					0.8	
	CNGM120412-2N S0052510		●	●	●	●	CNGM433-2N S0052510					1.2	
	CNGG120402-4N S0052510		●	●	●	●	CNGG43(0.5)-4N S0052510					0.2	
	CNGG120404-4N S0052510		●	●	●	●	CNGG431-4N S0052510					0.4	
	CNGG120408-4N S0052510		●	●	●	●	CNGG432-4N S0052510					0.8	
	CNGG120412-4N S0052510		●	●	●	●	CNGG433-4N S0052510					1.2	

DN

55° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DNGM150402-1N S0052510	SLCBC122C2	●	●	●	●	DNGM43(0.5)-1N S0052510	SLCBC122C2	12.7	5.16	4.76	0.2	2.2
	DNGM150404-1N S0052510		●	●	●	●	DNGM431-1N S0052510					0.4	
	DNGM150408-1N S0052510		●	●	●	●	DNGM432-1N S0052510					0.8	
	DNGM150412-1N S0052510		●	●	●	●	DNGM433-1N S0052510					1.2	
	DNGM150402-2N S0052510		●	●	●	●	DNGM43(0.5)-2N S0052510					0.2	
	DNGM150404-2N S0052510		●	●	●	●	DNGM431-2N S0052510					0.4	
	DNGM150408-2N S0052510		●	●	●	●	DNGM432-2N S0052510					0.8	
	DNGM150412-2N S0052510		●	●	●	●	DNGM433-2N S0052510					1.2	
	DNGG150402-4N S0052510		●	●	●	●	DNGG43(0.5)-4N S0052510					0.2	
	DNGG150404-4N S0052510		●	●	●	●	DNGG431-4N S0052510					0.4	
	DNGG150408-4N S0052510		●	●	●	●	DNGG432-4N S0052510					0.8	
	DNGG150412-4N S0052510		●	●	●	●	DNGG433-4N S0052510					1.2	

Examples: ISO: DNGG150408-4N S0052510 SLCBC122C2 PNH1020
ANSI: DNGG432-4N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

DN

55° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DNGM150602-1N S0052510	SLCBC122C2	●	●	●	●	DNGM44(0.5)-1N S0052510	SLCBC122C2	12.7	5.16	6.35	0.2	2.2
	DNGM150604-1N S0052510		●	●	●	●	DNGM441-1N S0052510					0.4	
	DNGM150608-1N S0052510		●	●	●	●	DNGM442-1N S0052510					0.8	
	DNGM150612-1N S0052510		●	●	●	●	DNGM443-1N S0052510					1.2	
	DNGM150602-2N S0052510		●	●	●	●	DNGM44(0.5)-2N S0052510					0.2	
	DNGM150604-2N S0052510		●	●	●	●	DNGM441-2N S0052510					0.4	
	DNGM150608-2N S0052510		●	●	●	●	DNGM442-2N S0052510					0.8	
	DNGM150612-2N S0052510		●	●	●	●	DNGM443-2N S0052510					1.2	
	DNGG150602-4N S0052510		●	●	●	●	DNGG44(0.5)-4N S0052510					0.2	
	DNGG150604-4N S0052510		●	●	●	●	DNGG441-4N S0052510					0.4	
	DNGG150608-4N S0052510		●	●	●	●	DNGG442-4N S0052510					0.8	
	DNGG150612-4N S0052510		●	●	●	●	DNGG443-4N S0052510					1.2	

SN

90° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	SNGM120402-1N S0052510	SLCBC122C2	●	●	●	●	SNGM43(0.5)-1N S0052510	SLCBC122C2	12.7	5.16	4.76	0.2	2.2
	SNGM120404-1N S0052510		●	●	●	●	SNGM431-1N S0052510					0.4	
	SNGM120408-1N S0052510		●	●	●	●	SNGM432-1N S0052510					0.8	
	SNGM120412-1N S0052510		●	●	●	●	SNGM433-1N S0052510					1.2	
	SNGM120402-4N S0052510		●	●	●	●	SNGM43(0.5)-4N S0052510					0.2	
	SNGM120404-4N S0052510		●	●	●	●	SNGM431-4N S0052510					0.4	
	SNGM120408-4N S0052510		●	●	●	●	SNGM432-4N S0052510					0.8	
	SNGM120412-4N S0052510		●	●	●	●	SNGM433-4N S0052510					1.2	
	SNGG120402-8N S0052510		●	●	●	●	SNGG43(0.5)-8N S0052510					0.2	
	SNGG120404-8N S0052510		●	●	●	●	SNGG431-8N S0052510					0.4	
	SNGG120408-8N S0052510		●	●	●	●	SNGG432-8N S0052510					0.8	
	SNGG120412-8N S0052510		●	●	●	●	SNGG433-8N S0052510					1.2	

Examples: ISO: SNGG120408-8N S0052510 SLCBC122C2 PNH1020
ANSI: SNGG432-8N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBC1)

TN

60° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TNGM160402-1N S0052510	SLCBC122C2	●	●	●	●	TNGM33(0.5)-1N S0052510	SLCBC122C2	9.525	3.81	4.76	0.2	2.2
	TNGM160404-1N S0052510		●	●	●	●	TNGM331-1N S0052510					0.4	
	TNGM160408-1N S0052510		●	●	●	●	TNGM332-1N S0052510					0.8	
	TNGM160412-1N S0052510		●	●	●	●	TNGM333-1N S0052510					1.2	
	TNGM160402-3N S0052510		●	●	●	●	TNGM33(0.5)-3N S0052510					0.2	
	TNGM160404-3N S0052510		●	●	●	●	TNGM331-3N S0052510					0.4	
	TNGM160408-3N S0052510		●	●	●	●	TNGM332-3N S0052510					0.8	
	TNGM160412-3N S0052510		●	●	●	●	TNGM333-3N S0052510					1.2	
	TNGG160402-6N S0052510		●	●	●	●	TNGG33(0.5)-6N S0052510					0.2	
	TNGG160404-6N S0052510		●	●	●	●	TNGG331-6N S0052510					0.4	
	TNGG160408-6N S0052510		●	●	●	●	TNGG332-6N S0052510					0.8	
	TNGG160412-6N S0052510		●	●	●	●	TNGG333-6N S0052510					1.2	

VN

35° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	VNGM160402-1N S0052510	SLCBC122C2	●	●	●	●	VNGM33(0.5)-1N S0052510	SLCBC122C2	9.525	3.81	4.76	0.2	2.2
	VNGM160404-1N S0052510		●	●	●	●	VNGM331-1N S0052510					0.4	
	VNGM160408-1N S0052510		●	●	●	●	VNGM332-1N S0052510					0.8	
	VNGM160412-1N S0052510		●	●	●	●	VNGM333-1N S0052510					1.2	
	VNGM160402-2N S0052510		●	●	●	●	VNGM33(0.5)-2N S0052510					0.2	
	VNGM160404-2N S0052510		●	●	●	●	VNGM331-2N S0052510					0.4	
	VNGM160408-2N S0052510		●	●	●	●	VNGM332-2N S0052510					0.8	
	VNGM160412-2N S0052510		●	●	●	●	VNGM333-2N S0052510					1.2	
	VNGG160402-4N S0052510		●	●	●	●	VNGG33(0.5)-4N S0052510					0.2	
	VNGG160404-4N S0052510		●	●	●	●	VNGG331-4N S0052510					0.4	
	VNGG160408-4N S0052510		●	●	●	●	VNGG332-4N S0052510					0.8	
	VNGG160412-4N S0052510		●	●	●	●	VNGG333-4N S0052510					1.2	

Examples: ISO: VNGG160412-4N S0052510 SLCBC122C2 PNH1020
ANSI: VNGG333-4N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker_(CBC1)



80° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	WNGM080402-1N S0052510	SLCBC122C2	●	●	●	●	WNGM43(0.5)-1N S0052510	SLCBC122C2	12.7	5.16	4.76	0.2	2.2
	WNGM080404-1N S0052510		●	●	●	●	WNGM431-1N S0052510					0.4	
	WNGM080408-1N S0052510		●	●	●	●	WNGM432-1N S0052510					0.8	
	WNGM080412-1N S0052510		●	●	●	●	WNGM433-1N S0052510					1.2	
	WNGM080402-3N S0052510		●	●	●	●	WNGM43(0.5)-3N S0052510					0.2	
	WNGM080404-3N S0052510		●	●	●	●	WNGM431-3N S0052510					0.4	
	WNGM080408-3N S0052510		●	●	●	●	WNGM432-3N S0052510					0.8	
	WNGM080412-3N S0052510		●	●	●	●	WNGM433-3N S0052510					1.2	
	WNGG080402-6N S0052510		●	●	●	●	WNGG43(0.5)-6N S0052510					0.2	
	WNGG080404-6N S0052510		●	●	●	●	WNGG431-6N S0052510					0.4	
	WNGG080408-6N S0052510		●	●	●	●	WNGG432-6N S0052510					0.8	
	WNGG080412-6N S0052510		●	●	●	●	WNGG433-6N S0052510					1.2	

Examples: ISO: WNGG080412-6N S0052510 SLCBC122C2 PNH1020
ANSI: WNGG433-6N S0052510 SLCBC122C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

CC 80° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGT060202-1N S0102510	SLCBRB22C2	●	●	●	●	CCGT2(1.5)(0.5)-1N S0102510	SLCBRB22C2	6.35	2.8	2.38	0.2	2.2
	CCGT060204-1N S0102510		●	●	●	●	CCGT2(1.5)1-1N S0102510					0.4	
	CCGT060208-1N S0102510		●	●	●	●	CCGT2(1.5)2-1N S0102510					0.8	
	CCGT060202-2N S0102510		●	●	●	●	CCGT2(1.5)(0.5)-2N S0102510					0.2	
	CCGT060204-2N S0102510		●	●	●	●	CCGT2(1.5)1-2N S0102510					0.4	
	CCGT060208-2N S0102510		●	●	●	●	CCGT2(1.5)2-2N S0102510					0.8	

CC 80° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGT09T302-1N S0102510	SLCBRB22C2	●	●	●	●	CCGT3(2.5)(0.5)-1N S0102510	SLCBRB22C2	9.525	4.4	3.97	0.2	2.2
	CCGT09T304-1N S0102510		●	●	●	●	CCGT3(2.5)1-1N S0102510					0.4	
	CCGT09T308-1N S0102510		●	●	●	●	CCGT3(2.5)2-1N S0102510					0.8	
	CCGT09T302-2N S0102510		●	●	●	●	CCGT3(2.5)(0.5)-2N S0102510					0.2	
	CCGT09T304-2N S0102510		●	●	●	●	CCGT3(2.5)1-2N S0102510					0.4	
	CCGT09T308-2N S0102510		●	●	●	●	CCGT3(2.5)2-2N S0102510					0.8	

CC 80° PCBN Positive Inserts



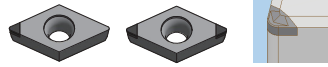
Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH1020	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGT120402-1N S0102510	SLCBRB22C2	●	●	●	●	CCGT43(0.5)-1N S0102510	SLCBRB22C2	12.7	5.5	4.76	0.2	2.2
	CCGT120404-1N S0102510		●	●	●	●	CCGT431-1N S0102510					0.4	
	CCGT120408-1N S0102510		●	●	●	●	CCGT432-1N S0102510					0.8	
	CCGT120412-1N S0102510		●	●	●	●	CCGT433-1N S0102510					1.2	
	CCGT120402-2N S0102510		●	●	●	●	CCGT43(0.5)-2N S0102510					0.2	
	CCGT120404-2N S0102510		●	●	●	●	CCGT431-2N S0102510					0.4	
	CCGT120408-2N S0102510		●	●	●	●	CCGT432-2N S0102510					0.8	
	CCGT120412-2N S0102510		●	●	●	●	CCGT433-2N S0102510					1.2	

Examples: ISO: CCGT120408-2N S0102510 SLCBRB22C2 PNH1020
ANSI: CCGT432-2N S0102510 SLCBRB22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

DC

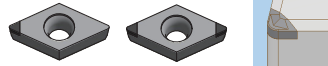
55° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGT070202-1N S0102510	SLCBBR22C2	●	●	●	●	DCGT2(1.5)(0.5)-1N S0102510	SLCBBR22C2	6.35	2.8	2.38	0.2	2.2
	DCGT070204-1N S0102510		●	●	●	●	DCGT2(1.5)1-1N S0102510					0.4	
	DCGT070208-1N S0102510		●	●	●	●	DCGT2(1.5)2-1N S0102510					0.8	
	DCGT070202-2N S0102510		●	●	●	●	DCGT2(1.5)(0.5)-2N S0102510					0.2	
	DCGT070204-2N S0102510		●	●	●	●	DCGT2(1.5)1-2N S0102510					0.4	
	DCGT070208-2N S0102510		●	●	●	●	DCGT2(1.5)2-2N S0102510					0.8	

DC

55° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGT11T302-1N S0102510	SLCBBR22C2	●	●	●	●	DCGT3(2.5)(0.5)-1N S0102510	SLCBBR22C2	9.525	4.4	3.97	0.2	2.2
	DCGT11T304-1N S0102510		●	●	●	●	DCGT3(2.5)1-1N S0102510					0.4	
	DCGT11T308-1N S0102510		●	●	●	●	DCGT3(2.5)2-1N S0102510					0.8	
	DCGT11T312-1N S0102510		●	●	●	●	DCGT3(2.5)3-1N S0102510					1.2	
	DCGT11T302-2N S0102510		●	●	●	●	DCGT3(2.5)(0.5)-2N S0102510					0.2	
	DCGT11T304-2N S0102510		●	●	●	●	DCGT3(2.5)1-2N S0102510					0.4	
	DCGT11T308-2N S0102510		●	●	●	●	DCGT3(2.5)2-2N S0102510					0.8	
	DCGT11T312-2N S0102510		●	●	●	●	DCGT3(2.5)3-2N S0102510					1.2	

Examples: ISO: DCGT11T308-2N S0102510 SLCBBR22C2 PNH1020
ANSI: DCGT3(2.5)2-2N S0102510 SLCBBR22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

TP 60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT080202-1N S0102510	SLCBRB22C2	●	●	●	●	TPGT(1.5)(1.5)(0.5)-1N S0102510	SLCBRB22C2	4.76	2.4	2.38	0.2	2.2
	TPGT080204-1N S0102510		●	●	●	●	TPGT(1.5)(1.5)1-1N S0102510					0.4	
	TPGT080202-3N S0102510		●	●	●	●	TPGT(1.5)(1.5)(0.5)-3N S0102510					0.2	
	TPGT080204-3N S0102510		●	●	●	●	TPGT(1.5)(1.5)1-3N S0102510					0.4	

TP 60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT090202-1N S0102510	SLCBRB22C2	●	●	●	●	TPGT(1.8)(1.5)(0.5)-1N S0102510	SLCBRB22C2	5.56	2.8	2.38	0.2	2.2
	TPGT090204-1N S0102510		●	●	●	●	TPGT(1.8)(1.5)1-1N S0102510					0.4	
	TPGT090208-1N S0102510		●	●	●	●	TPGT(1.8)(1.5)2-1N S0102510					0.8	
	TPGT090202-3N S0102510		●	●	●	●	TPGT(1.8)(1.5)(0.5)-3N S0102510					0.2	
	TPGT090204-3N S0102510		●	●	●	●	TPGT(1.8)(1.5)1-3N S0102510					0.4	
	TPGT090208-3N S0102510		●	●	●	●	TPGT(1.8)(1.5)2-3N S0102510					0.8	

TP 60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT110302-1N S0102510	SLCBRB22C2	●	●	●	●	TPGT22(0.5)-1N S0102510	SLCBRB22C2	6.35	3.3	3.18	0.2	2.2
	TPGT110304-1N S0102510		●	●	●	●	TPGT221-1N S0102510					0.4	
	TPGT110302-3N S0102510		●	●	●	●	TPGT22(0.5)-3N S0102510					0.2	
	TPGT110304-3N S0102510		●	●	●	●	TPGT221-3N S0102510					0.4	

Examples: ISO: TPGT090208-3N S0102510 SLCBRB22C2 PNH1020

ANSI: TPGT3(1.8)(1.5)2-3N S0102510 SLCBRB22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

TP

60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT160302-1N S0102510	SLCBBR22C2	●	●	●	●	TPGT32(0.5)-1N S0102510	SLCBBR22C2	9.525	4.4	3.18	0.2	2.2
	TPGT160304-1N S0102510		●	●	●	●	TPGT321-1N S0102510					0.4	
	TPGT160308-1N S0102510		●	●	●	●	TPGT322-1N S0102510					0.8	
	TPGT160302-3N S0102510		●	●	●	●	TPGT32(0.5)-3N S0102510					0.2	
	TPGT160304-3N S0102510		●	●	●	●	TPGT321-3N S0102510					0.4	
	TPGT160308-3N S0102510		●	●	●	●	TPGT322-3N S0102510					0.8	

TP

60° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TPGT160402-1N S0102510	SLCBBR22C2	●	●	●	●	TPGT33(0.5)-1N S0102510	SLCBBR22C2	9.525	4.4	4.76	0.2	2.2
	TPGT160404-1N S0102510		●	●	●	●	TPGT331-1N S0102510					0.4	
	TPGT160408-1N S0102510		●	●	●	●	TPGT332-1N S0102510					0.8	
	TPGT160402-3N S0102510		●	●	●	●	TPGT33(0.5)-3N S0102510					0.2	
	TPGT160404-3N S0102510		●	●	●	●	TPGT331-3N S0102510					0.4	
	TPGT160408-3N S0102510		●	●	●	●	TPGT332-3N S0102510					0.8	

Examples: ISO: TPGT160408-3N S0102510 SLCBBR22C2 PNH1020
ANSI: TPGT322-3N S0102510 SLCBBR22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

VB

35° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	VBGT110302-1N S0102510	SLCBBR22C2	●	●	●	●	VBGT22(05)-1N S0102510	SLCBBR22C2	6.35	2.8	3.18	0.2	2.2
	VBGT110304-1N S0102510		●	●	●	●	VBGT221-1N S0102510					0.4	
	VBGT110308-1N S0102510		●	●	●	●	VBGT222-1N S0102510					0.8	
	VBGT110302-2N S0102510		●	●	●	●	VBGT22(05)-2N S0102510					0.2	
	VBGT110304-2N S0102510		●	●	●	●	VBGT221-2N S0102510					0.4	
	VBGT110308-2N S0102510		●	●	●	●	VBGT222-2N S0102510					0.8	

VB

35° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	VBGT160402-1N S0102510	SLCBBR22C2	●	●	●	●	VBGT33(0.5)-1N S0102510	SLCBBR22C2	9.525	4.4	4.76	0.2	2.2
	VBGT160404-1N S0102510		●	●	●	●	VBGT331-1N S0102510					0.4	
	VBGT160408-1N S0102510		●	●	●	●	VBGT332-1N S0102510					0.8	
	VBGT160412-1N S0102510		●	●	●	●	VBGT333-1N S0102510					1.2	
	VBGT160402-2N S0102510		●	●	●	●	VBGT33(0.5)-2N S0102510					0.2	
	VBGT160404-2N S0102510		●	●	●	●	VBGT331-2N S0102510					0.4	
	VBGT160408-2N S0102510		●	●	●	●	VBGT332-2N S0102510					0.8	
	VBGT160412-2N S0102510		●	●	●	●	VBGT333-2N S0102510					1.2	

VC

35° PCBN Positive Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	VCGT080202-1N S0102510	SLCBBR22C2	●	●	●	●	VCGT(1.5)(1.5)(0.5)-1N S0102510	SLCBBR22C2	4.76	2.2	2.38	0.2	2.2
	VCGT080204-1N S0102510		●	●	●	●	VCGT(1.5)(1.5)1-1N S0102510					0.4	
	VCGT080208-1N S0102510		●	●	●	●	VCGT(1.5)(1.5)2-1N S0102510					0.8	
	VCGT080202-2N S0102510		●	●	●	●	VCGT(1.5)(1.5)(0.5)-2N S0102510					0.2	
	VCGT080204-2N S0102510		●	●	●	●	VCGT(1.5)(1.5)1-2N S0102510					0.4	
	VCGT080208-2N S0102510		●	●	●	●	VCGT(1.5)(1.5)2-2N S0102510					0.8	

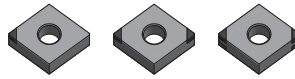
Examples: ISO: VCGT080202-1N S0102510 SLCBBR22C2 PNH1020

ANSI: VCGT(1.5)(1.5)(0.5)-1N S0102510 SLCBBR22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

CN

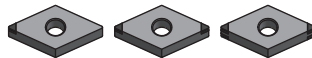
80° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CNGM120402-1N S0102510	SLCBB22C2	●	●	●	●	CNGM43(0.5)-1N S0102510	SLCBB22C2	12.7	5.16	4.76	0.2	2.2
	CNGM120404-1N S0102510		●	●	●	●	CNGM431-1N S0102510					0.4	
	CNGM120408-1N S0102510		●	●	●	●	CNGM432-1N S0102510					0.8	
	CNGM120412-1N S0102510		●	●	●	●	CNGM433-1N S0102510					1.2	
	CNGM120402-2N S0102510		●	●	●	●	CNGM43(0.5)-2N S0102510					0.2	
	CNGM120404-2N S0102510		●	●	●	●	CNGM431-2N S0102510					0.4	
	CNGM120408-2N S0102510		●	●	●	●	CNGM432-2N S0102510					0.8	
	CNGM120412-2N S0102510		●	●	●	●	CNGM433-2N S0102510					1.2	
	CNGG120402-4N S0102510		●	●	●	●	CNGG43(0.5)-4N S0102510					0.2	
	CNGG120404-4N S0102510		●	●	●	●	CNGG431-4N S0102510					0.4	
	CNGG120408-4N S0102510		●	●	●	●	CNGG432-4N S0102510					0.8	
	CNGG120412-4N S0102510		●	●	●	●	CNGG433-4N S0102510					1.2	

DN

55° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DNGM150402-1N S0102510	SLCBB22C2	●	●	●	●	DNGM43(0.5)-1N S0102510	SLCBB22C2	12.7	5.16	4.76	0.2	2.2
	DNGM150404-1N S0102510		●	●	●	●	DNGM431-1N S0102510					0.4	
	DNGM150408-1N S0102510		●	●	●	●	DNGM432-1N S0102510					0.8	
	DNGM150412-1N S0102510		●	●	●	●	DNGM433-1N S0102510					1.2	
	DNGM150402-2N S0102510		●	●	●	●	DNGM43(0.5)-2N S0102510					0.2	
	DNGM150404-2N S0102510		●	●	●	●	DNGM431-2N S0102510					0.4	
	DNGM150408-2N S0102510		●	●	●	●	DNGM432-2N S0102510					0.8	
	DNGM150412-2N S0102510		●	●	●	●	DNGM433-2N S0102510					1.2	
	DNGG150402-4N S0102510		●	●	●	●	DNGG43(0.5)-4N S0102510					0.2	
	DNGG150404-4N S0102510		●	●	●	●	DNGG431-4N S0102510					0.4	
	DNGG150408-4N S0102510		●	●	●	●	DNGG432-4N S0102510					0.8	
	DNGG150412-4N S0102510		●	●	●	●	DNGG433-4N S0102510					1.2	

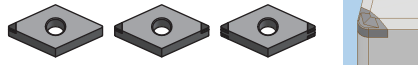
Examples: ISO: DNGG150408-4N S0102510 SLCBB22C2 PNH1020

ANSI: DNGG432-4N S0102510 SLCBB22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

DN

55° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DNGM150602-1N S0102510	SLCBB22C2	●	●	●	●	DNGM44(0.5)-1N S0102510	SLCBB22C2	12.7	5.16	6.35	0.2	2.2
	DNGM150604-1N S0102510		●	●	●	●	DNGM441-1N S0102510					0.4	
	DNGM150608-1N S0102510		●	●	●	●	DNGM442-1N S0102510					0.8	
	DNGM150612-1N S0102510		●	●	●	●	DNGM443-1N S0102510					1.2	
	DNGM150602-2N S0102510		●	●	●	●	DNGM44(0.5)-2N S0102510					0.2	
	DNGM150604-2N S0102510		●	●	●	●	DNGM441-2N S0102510					0.4	
	DNGM150608-2N S0102510		●	●	●	●	DNGM442-2N S0102510					0.8	
	DNGM150612-2N S0102510		●	●	●	●	DNGM443-2N S0102510					1.2	
	DNGG150602-4N S0102510		●	●	●	●	DNGG44(0.5)-4N S0102510					0.2	
	DNGG150604-4N S0102510		●	●	●	●	DNGG441-4N S0102510					0.4	
	DNGG150608-4N S0102510		●	●	●	●	DNGG442-4N S0102510					0.8	
	DNGG150612-4N S0102510		●	●	●	●	DNGG443-4N S0102510					1.2	

SN

90° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	SNGM120402-1N S0102510	SLCBB22C2	●	●	●	●	SNGM43(0.5)-1N S0102510	SLCBB22C2	12.7	5.16	4.76	0.2	2.2
	SNGM120404-1N S0102510		●	●	●	●	SNGM431-1N S0102510					0.4	
	SNGM120408-1N S0102510		●	●	●	●	SNGM432-1N S0102510					0.8	
	SNGM120412-1N S0102510		●	●	●	●	SNGM433-1N S0102510					1.2	
	SNGM120402-4N S0102510		●	●	●	●	SNGM43(0.5)-4N S0102510					0.2	
	SNGM120404-4N S0102510		●	●	●	●	SNGM431-4N S0102510					0.4	
	SNGM120408-4N S0102510		●	●	●	●	SNGM432-4N S0102510					0.8	
	SNGM120412-4N S0102510		●	●	●	●	SNGM433-4N S0102510					1.2	
	SNGG120402-8N S0102510		●	●	●	●	SNGG43(0.5)-8N S0102510					0.2	
	SNGG120404-8N S0102510		●	●	●	●	SNGG431-8N S0102510					0.4	
	SNGG120408-8N S0102510		●	●	●	●	SNGG432-8N S0102510					0.8	
	SNGG120412-8N S0102510		●	●	●	●	SNGG433-8N S0102510					1.2	

Examples: ISO: SNGG120408-8N S0102510 SLCBB22C2 PNH1020

ANSI: SNGG432-8N S0102510 SLCBB22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

TN

60° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TNGM160402-1N S0102510	SLCBRB22C2	●	●	●	●	TNGM33(0.5)-1N S0102510	SLCBRB22C2	29.525	3.81	4.76	0.2	2.2
	TNGM160404-1N S0102510		●	●	●	●	TNGM331-1N S0102510					0.4	
	TNGM160408-1N S0102510		●	●	●	●	TNGM332-1N S0102510					0.8	
	TNGM160412-1N S0102510		●	●	●	●	TNGM333-1N S0102510					1.2	
	TNGM160402-3N S0102510		●	●	●	●	TNGM33(0.5)-3N S0102510					0.2	
	TNGM160404-3N S0102510		●	●	●	●	TNGM331-3N S0102510					0.4	
	TNGM160408-3N S0102510		●	●	●	●	TNGM332-3N S0102510					0.8	
	TNGM160412-3N S0102510		●	●	●	●	TNGM333-3N S0102510					1.2	
	TNGG160402-6N S0102510		●	●	●	●	TNGG33(0.5)-6N S0102510					0.2	
	TNGG160404-6N S0102510		●	●	●	●	TNGG331-6N S0102510					0.4	
	TNGG160408-6N S0102510		●	●	●	●	TNGG332-6N S0102510					0.8	
	TNGG160412-6N S0102510		●	●	●	●	TNGG333-6N S0102510					1.2	

VN

35° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	VNGM160402-1N S0102510	SLCBRB22C2	●	●	●	●	VNGM33(0.5)-1N S0102510	SLCBRB22C2	9.525	3.81	4.76	0.2	2.2
	VNGM160404-1N S0102510		●	●	●	●	VNGM331-1N S0102510					0.4	
	VNGM160408-1N S0102510		●	●	●	●	VNGM332-1N S0102510					0.8	
	VNGM160412-1N S0102510		●	●	●	●	VNGM333-1N S0102510					1.2	
	VNGM160402-2N S0102510		●	●	●	●	VNGM33(0.5)-2N S0102510					0.2	
	VNGM160404-2N S0102510		●	●	●	●	VNGM331-2N S0102510					0.4	
	VNGM160408-2N S0102510		●	●	●	●	VNGM332-2N S0102510					0.8	
	VNGM160412-2N S0102510		●	●	●	●	VNGM333-2N S0102510					1.2	
	VNGG160402-4N S0102510		●	●	●	●	VNGG33(0.5)-4N S0102510					0.2	
	VNGG160404-4N S0102510		●	●	●	●	VNGG331-4N S0102510					0.4	
	VNGG160408-4N S0102510		●	●	●	●	VNGG332-4N S0102510					0.8	
	VNGG160412-4N S0102510		●	●	●	●	VNGG333-4N S0102510					1.2	

Examples: ISO: VNGG160412-4N S0102510 SLCBRB22C2 PNH1020

ANSI: VNGG333-4N S0102510 SLCBRB22C2 PNH1020

Specifications of Coated PCBN Insert with Chip-breaker(CBRB)

WN

80° PCBN Negative Inserts



Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	WNGM080402-1N S0102510	SLCBB22C2	●	●	●	●	WNGM43(0.5)-1N S0102510	SLCBB22C2	12.7	5.16	4.76	0.2	2.2
	WNGM080404-1N S0102510		●	●	●	●	WNGM431-1N S0102510					0.4	
	WNGM080408-1N S0102510		●	●	●	●	WNGM432-1N S0102510					0.8	
	WNGM080412-1N S0102510		●	●	●	●	WNGM433-1N S0102510					1.2	
	WNGM080402-3N S0102510		●	●	●	●	WNGM43(0.5)-3N S0102510					0.2	
	WNGM080404-3N S0102510		●	●	●	●	WNGM431-3N S0102510					0.4	
	WNGM080408-3N S0102510		●	●	●	●	WNGM432-3N S0102510					0.8	
	WNGM080412-3N S0102510		●	●	●	●	WNGM433-3N S0102510					1.2	
	WNGG080402-4N S0102510		●	●	●	●	WNGM43(0.5)-6N S0102510					0.2	
	WNGG080404-4N S0102510		●	●	●	●	WNGG431-6N S0102510					0.4	
	WNGG080408-4N S0102510		●	●	●	●	WNGG432-6N S0102510					0.8	
	WNGG080412-4N S0102510		●	●	●	●	WNGG433-6N S0102510					1.2	

Examples: ISO: WNGG080412-6N S0102510 SLCBB22C2 PNH1020
ANSI: WNGG433-6N S0102510 SLCBB22C2 PNH1020

Specifications of Coated PCBN Wiper Insert

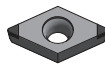
CC 80° PCBN Positive Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGW09T304-1N S0101505	SLWG22C2	●	●	●	●	CCGW3(2.5)1-1N S0101505	SLWG22C2	9.525	4.4	3.97	0.2	2.2
	CCGW09T304-1N S0102510		●	●	●	●	CCGW3(2.5)1-1N S0102510					0.4	
	CCGW09T304-1N S0202020		●	●	●	●	CCGW3(2.5)1-1N S0202020					0.8	
	CCGW09T308-2N S0101505		●	●	●	●	CCGW3(2.5)2-2N S0101505					0.2	
	CCGW09T308-2N S0102510		●	●	●	●	CCGW3(2.5)2-2N S0102510					0.4	
	CCGW09T308-2N S0202020		●	●	●	●	CCGW3(2.5)2-2N S0202020					0.8	

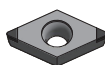
DC 55° PCBN Positive Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGW070204-1N S0101505	SLWG22C2	●	●	●	●	DCGW2(1.5)1-1N S0101505	SLWG22C2	6.35	2.8	2.38	0.2	2.2
	DCGW070204-1N S0102510		●	●	●	●	DCGW2(1.5)1-1N S0102510					0.4	
	DCGW070204-1N S0202020		●	●	●	●	DCGW2(1.5)1-1N S0202020					0.8	
	DCGW070208-2N S0101505		●	●	●	●	DCGW2(1.5)2-2N S0101505					0.2	
	DCGW070208-2N S0102510		●	●	●	●	DCGW2(1.5)2-2N S0102510					0.4	
	DCGW070208-2N S0202020		●	●	●	●	DCGW2(1.5)2-2N S0202020					0.8	

DC 55° PCBN Positive Inserts



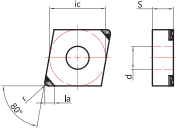
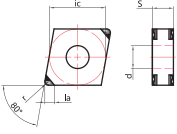
Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

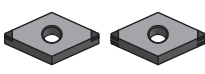
Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGW11T304-1N S0101505	SLWG22C2	●	●	●	●	DCGW3(2.5)1-1N S0101505	SLWG22C2	6.35	2.8	3.97	0.2	2.2
	DCGW11T304-1N S0102510		●	●	●	●	DCGW3(2.5)1-1N S0102510					0.4	
	DCGW11T304-1N S0202020		●	●	●	●	DCGW3(2.5)1-1N S0202020					0.8	
	DCGW11T308-2N S0101505		●	●	●	●	DCGW3(2.5)2-2N S0101505					0.2	
	DCGW11T308-2N S0102510		●	●	●	●	DCGW3(2.5)2-2N S0102510					0.4	
	DCGW11T308-2N S0202020		●	●	●	●	DCGW3(2.5)2-2N S0202020					0.8	

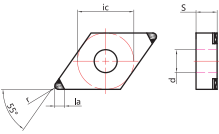
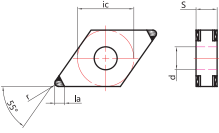
Examples: ISO: DCGW11T304-2N S0101505 SLWG22C2 PNH1020
ANSI: DCGW3(2.5)1-2N S0101505 SLWG22C2 PNH1020

Specifications of Coated PCBN Wiper Insert

CN	80° PCBN Negative Inserts			Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
				S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CNGA120404-2N S0101505	SLWG22C2	●	●	●	●	CNGA431-2N S0101505	SLWG22C2	12.7	5.16	4.76	0.4	2.2
	CNGA120404-2N S0102510		●	●	●	●	CNGA431-2N S0102510					0.4	
	CNGA120404-2N S0202020		●	●	●	●	CNGA431-2N S0202020					0.4	
	CNGA120408-2N S0101505		●	●	●	●	CNGA432-2N S0101505					0.8	
	CNGA120408-2N S0102510		●	●	●	●	CNGA432-2N S0102510					0.8	
	CNGA120408-2N S0202020		●	●	●	●	CNGA432-2N S0202020					0.8	
	CNGA120404-4N S0101505		●	●	●	●	CNGA431-4N S0101505					0.4	
	CNGA120404-4N S0102510		●	●	●	●	CNGA431-4N S0102510					0.4	
	CNGA120404-4N S0202020		●	●	●	●	CNGA431-4N S0202020					0.4	
	CNGA120408-4N S0101505		●	●	●	●	CNGA432-4N S0101505					0.8	
	CNGA120408-4N S0102510		●	●	●	●	CNGA432-4N S0102510					0.8	
	CNGA120408-4N S0202020		●	●	●	●	CNGA432-4N S0202020					0.8	

DN	55° PCBN Negative Inserts			Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
				S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DNGA150404-2N S0101505	SLWG22C2	●	●	●	●	DNGA431-2N S0101505	SLWG22C2	12.7	5.16	4.76	0.4	2.2
	DNGA150404-2N S0102510		●	●	●	●	DNGA431-2N S0102510					0.4	
	DNGA150404-2N S0202020		●	●	●	●	DNGA431-2N S0202020					0.4	
	DNGA150408-2N S0101505		●	●	●	●	DNGA432-2N S0101505					0.8	
	DNGA150408-2N S0102510		●	●	●	●	DNGA432-2N S0102510					0.8	
	DNGA150408-2N S0202020		●	●	●	●	DNGA432-2N S0202020					0.8	
	DNGA150404-4N S0101505		●	●	●	●	DNGA431-4N S0101505					0.4	
	DNGA150404-4N S0102510		●	●	●	●	DNGA431-4N S0102510					0.4	
	DNGA150404-4N S0202020		●	●	●	●	DNGA431-4N S0202020					0.4	
	DNGA150408-4N S0101505		●	●	●	●	DNGA432-4N S0101505					0.8	
	DNGA150408-4N S0102510		●	●	●	●	DNGA432-4N S0102510					0.8	
	DNGA150408-4N S0202020		●	●	●	●	DNGA432-4N S0202020					0.8	

Examples: ISO: DNGA150408-2N S0101505SLWG22C2 PNH1020
ANSI: DNGA432-2N S0101505SLWG22C2 PNH1020

Specifications of Coated PCBN Wiper Insert

TN

60° PCBN Negative Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TNGA160404-3N S0101505	SLWG22C2	●	●	●	●	TNGA331-3N S0101505	SLWG22C2	9.525	3.81	4.76	0.4	2.2
	TNGA160404-3N S0102510		●	●	●	●	TNGA331-3N S0102510					0.4	
	TNGA160404-3N S0202020		●	●	●	●	TNGA331-3N S0202020					0.4	
	TNGA160408-3N S0101505		●	●	●	●	TNGA332-3N S0101505					0.8	
	TNGA160408-3N S0102510		●	●	●	●	TNGA332-3N S0102510					0.8	
	TNGA160408-3N S0202020		●	●	●	●	TNGA332-3N S0202020					0.8	
	TNGA160404-6N S0101505		●	●	●	●	TNGA331-6N S0101505					0.4	
	TNGA160404-6N S0102510		●	●	●	●	TNGA331-6N S0102510					0.4	
	TNGA160404-6N S0202020		●	●	●	●	TNGA331-6N S0202020					0.4	
	TNGA160408-6N S0101505		●	●	●	●	TNGA332-6N S0101505					0.8	
	TNGA160408-6N S0102510		●	●	●	●	TNGA332-6N S0102510					0.8	
	TNGA160408-6N S0202020		●	●	●	●	TNGA332-6N S0202020					0.8	

WN

80° PCBN Negative Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	WNGA080404-3N S0101505	SLWG22C2	●	●	●	●	WNGA431-3N S0101505	SLWG22C2	12.7	5.16	4.76	0.4	2.2
	WNGA080404-3N S0102510		●	●	●	●	WNGA431-3N S0102510					0.4	
	WNGA080404-3N S0202020		●	●	●	●	WNGA431-3N S0202020					0.4	
	WNGA080408-3N S0101505		●	●	●	●	WNGA432-3N S0101505					0.8	
	WNGA080408-3N S0102510		●	●	●	●	WNGA432-3N S0102510					0.8	
	WNGA080408-3N S0202020		●	●	●	●	WNGA432-3N S0202020					0.8	
	WNGA080404-6N S0101505		●	●	●	●	WNGA431-6N S0101505					0.4	
	WNGA080404-6N S0102510		●	●	●	●	WNGA431-6N S0102510					0.4	
	WNGA080404-6N S0202020		●	●	●	●	WNGA431-6N S0202020					0.4	
	WNGA080408-6N S0101505		●	●	●	●	WNGA432-6N S0101505					0.8	
	WNGA080408-6N S0102510		●	●	●	●	WNGA432-6N S0102510					0.8	
	WNGA080408-6N S0202020		●	●	●	●	WNGA432-6N S0202020					0.8	

Examples: ISO: TNGA160408-6N S0101505SLWG22C2 PNH1020
ANSI: TNGA332-6N S0101505SLWG22C2 PNH1020

Specifications of Coated PCBN Insert

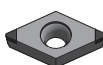
CC 80° PCBN Positive Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CCGW09T304-1N S0101505	SLST22C2	●	●	●	●	CCGW3(2.5)1-1N S0101505	SLST22C2	9.525	4.4	3.97	0.2	2.2
	CCGW09T304-1N S0102510		●	●	●	●	CCGW3(2.5)1-1N S0102510					0.4	
	CCGW09T304-1N S0202020		●	●	●	●	CCGW3(2.5)1-1N S0202020					0.8	
	CCGW09T308-2N S0101505		●	●	●	●	CCGW3(2.5)2-2N S0101505					0.2	
	CCGW09T308-2N S0102510		●	●	●	●	CCGW3(2.5)2-2N S0102510					0.4	
	CCGW09T308-2N S0202020		●	●	●	●	CCGW3(2.5)2-2N S0202020					0.8	

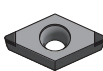
DC 55° PCBN Positive Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGW070204-1N S0101505	SLST22C2	●	●	●	●	DCGW2(1.5)1-1N S0101505	SLST22C2	6.35	2.8	2.38	0.2	2.2
	DCGW070204-1N S0102510		●	●	●	●	DCGW2(1.5)1-1N S0102510					0.4	
	DCGW070204-1N S0202020		●	●	●	●	DCGW2(1.5)1-1N S0202020					0.8	
	DCGW070208-2N S0101505		●	●	●	●	DCGW2(1.5)2-2N S0101505					0.2	
	DCGW070208-2N S0102510		●	●	●	●	DCGW2(1.5)2-2N S0102510					0.4	
	DCGW070208-2N S0202020		●	●	●	●	DCGW2(1.5)2-2N S0202020					0.8	

DC 55° PCBN Positive Inserts

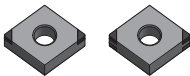


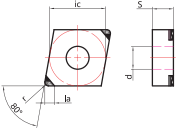
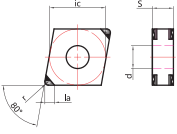
Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

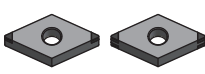
Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DCGW11T304-1N S0101505	SLST22C2	●	●	●	●	DCGW3(2.5)1-1N S0101505	SLST22C2	6.35	2.8	3.97	0.2	2.2
	DCGW11T304-1N S0102510		●	●	●	●	DCGW3(2.5)1-1N S0102510					0.4	
	DCGW11T304-1N S0202020		●	●	●	●	DCGW3(2.5)1-1N S0202020					0.8	
	DCGW11T308-2N S0101505		●	●	●	●	DCGW3(2.5)2-2N S0101505					0.2	
	DCGW11T308-2N S0102510		●	●	●	●	DCGW3(2.5)2-2N S0102510					0.4	
	DCGW11T308-2N S0202020		●	●	●	●	DCGW3(2.5)2-2N S0202020					0.8	

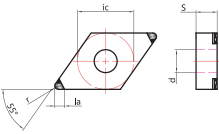
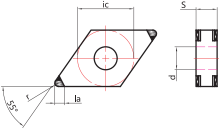
Examples: ISO: DCGW11T304-2N S0101505 SLST22C2 PNH1020
ANSI: DCGW3(2.5)1-2N S0101505 SLST22C2 PNH1020

Specifications of Coated PCBN Insert

CN	80° PCBN Negative Inserts			Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
				S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	CNGA120404-2N S0101505	SLST22C2	●	●	●	●	CNGA431-2N S0101505	SLST22C2	12.7	5.16	4.76	0.4	2.2
	CNGA120404-2N S0102510		●	●	●	●	CNGA431-2N S0102510					0.4	
	CNGA120404-2N S0202020		●	●	●	●	CNGA431-2N S0202020					0.4	
	CNGA120408-2N S0101505		●	●	●	●	CNGA432-2N S0101505					0.8	
	CNGA120408-2N S0102510		●	●	●	●	CNGA432-2N S0102510					0.8	
	CNGA120408-2N S0202020		●	●	●	●	CNGA432-2N S0202020					0.8	
	CNGA120404-4N S0101505		●	●	●	●	CNGA431-4N S0101505					0.4	
	CNGA120404-4N S0102510		●	●	●	●	CNGA431-4N S0102510					0.4	
	CNGA120404-4N S0202020		●	●	●	●	CNGA431-4N S0202020					0.4	
	CNGA120408-4N S0101505		●	●	●	●	CNGA432-4N S0101505					0.8	
	CNGA120408-4N S0102510		●	●	●	●	CNGA432-4N S0102510					0.8	
	CNGA120408-4N S0202020		●	●	●	●	CNGA432-4N S0202020					0.8	

DN	55° PCBN Negative Inserts			Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
				S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	DNGA150404-2N S0101505	SLST22C2	●	●	●	●	DNGA431-2N S0101505	SLST22C2	12.7	5.16	4.76	0.4	2.2
	DNGA150404-2N S0102510		●	●	●	●	DNGA431-2N S0102510					0.4	
	DNGA150404-2N S0202020		●	●	●	●	DNGA431-2N S0202020					0.4	
	DNGA150408-2N S0101505		●	●	●	●	DNGA432-2N S0101505					0.8	
	DNGA150408-2N S0102510		●	●	●	●	DNGA432-2N S0102510					0.8	
	DNGA150408-2N S0202020		●	●	●	●	DNGA432-2N S0202020					0.8	
	DNGA150404-4N S0101505		●	●	●	●	DNGA431-4N S0101505					0.4	
	DNGA150404-4N S0102510		●	●	●	●	DNGA431-4N S0102510					0.4	
	DNGA150404-4N S0202020		●	●	●	●	DNGA431-4N S0202020					0.4	
	DNGA150408-4N S0101505		●	●	●	●	DNGA432-4N S0101505					0.8	
	DNGA150408-4N S0102510		●	●	●	●	DNGA432-4N S0102510					0.8	
	DNGA150408-4N S0202020		●	●	●	●	DNGA432-4N S0202020					0.8	

Examples: ISO: DNGA150408-2N S0101505 SLST22C2 PNH1020
ANSI: DNGA432-2N S0101505 SLST22C2 PNH1020

Specifications of Coated PCBN Insert

TN

60° PCBN Negative Inserts



Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	TNGA160404-3N S0101505	SLST22C2	●	●	●	●	TNGA331-3N S0101505	SLST22C2	9.525	3.81	4.76	0.4	2.2
	TNGA160404-3N S0102510		●	●	●	●	TNGA331-3N S0102510					0.4	
	TNGA160404-3N S0202020		●	●	●	●	TNGA331-3N S0202020					0.4	
	TNGA160408-3N S0101505		●	●	●	●	TNGA332-3N S0101505					0.8	
	TNGA160408-3N S0102510		●	●	●	●	TNGA332-3N S0102510					0.8	
	TNGA160408-3N S0202020		●	●	●	●	TNGA332-3N S0202020					0.8	
	TNGA160404-6N S0101505		●	●	●	●	TNGA331-6N S0101505					0.4	
	TNGA160404-6N S0102510		●	●	●	●	TNGA331-6N S0102510					0.4	
	TNGA160404-6N S0202020		●	●	●	●	TNGA331-6N S0202020					0.4	
	TNGA160408-6N S0101505		●	●	●	●	TNGA332-6N S0101505					0.8	
	TNGA160408-6N S0102510		●	●	●	●	TNGA332-6N S0102510					0.8	
	TNGA160408-6N S0202020		●	●	●	●	TNGA332-6N S0202020					0.8	

WN

80° PCBN Negative Inserts



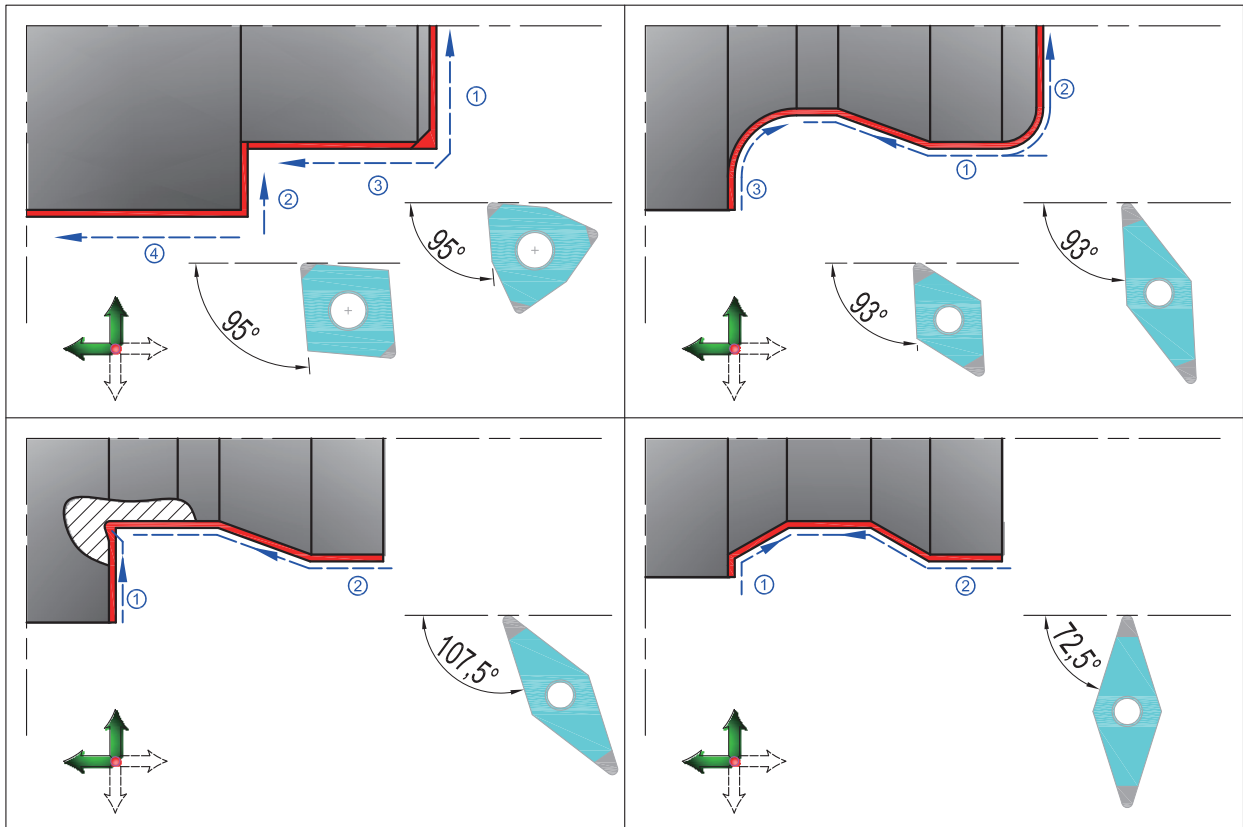
Sharp Cutting Edge	Standard Cutting Edge	Strong Cutting Edge
S0101505	S0102510	S0202020

Shape	ISO	Tip Shape	H				ANSI	Tip Shape	Dimensions in mm				
			PNH0120	PNH1020	PNH2018	PNH3019			ic	ød	s	r	la
	WNGA080404-3N S0101505	SLWG22C2	●	●	●	●	WNGA431-3N S0101505	SLST22C2	12.7	5.16	4.76	0.4	2.2
	WNGA080404-3N S0102510		●	●	●	●	WNGA431-3N S0102510					0.4	
	WNGA080404-3N S0202020		●	●	●	●	WNGA431-3N S0202020					0.4	
	WNGA080408-3N S0101505		●	●	●	●	WNGA432-3N S0101505					0.8	
	WNGA080408-3N S0102510		●	●	●	●	WNGA432-3N S0102510					0.8	
	WNGA080408-3N S0202020		●	●	●	●	WNGA432-3N S0202020					0.8	
	WNGA080404-6N S0101505		●	●	●	●	WNGA431-6N S0101505					0.4	
	WNGA080404-6N S0102510		●	●	●	●	WNGA431-6N S0102510					0.4	
	WNGA080404-6N S0202020		●	●	●	●	WNGA431-6N S0202020					0.4	
	WNGA080408-6N S0101505		●	●	●	●	WNGA432-6N S0101505					0.8	
	WNGA080408-6N S0102510		●	●	●	●	WNGA432-6N S0102510					0.8	
	WNGA080408-6N S0202020		●	●	●	●	WNGA432-6N S0202020					0.8	

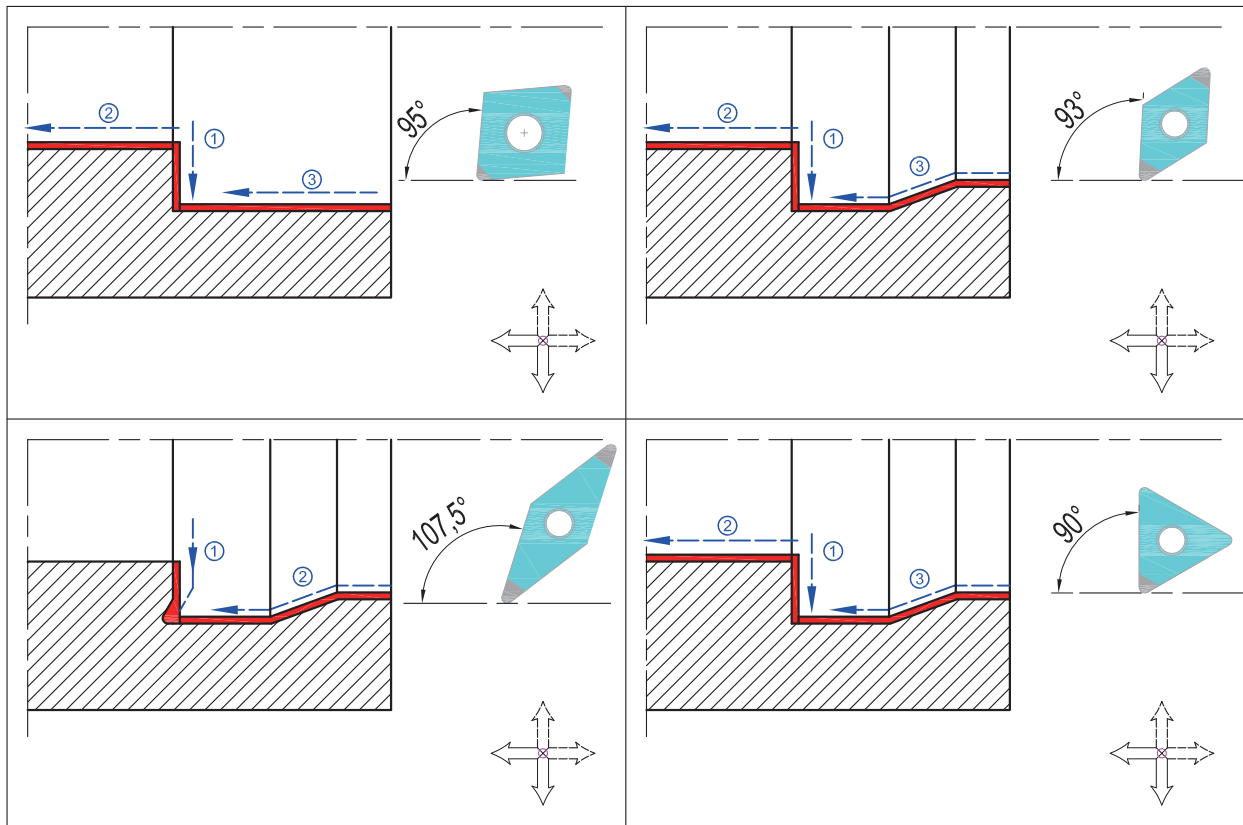
Examples: ISO: TNGA160408-6N S0101505 SLST22C2 PNH1020
ANSI: TNGA332-6N S0101505 SLST22C2 PNH1020

Cutting Direction Recommendation

External machining



Internal machining

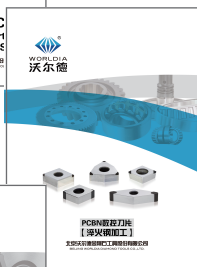


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01-8
Coated PCBN Insert
For Hardened Steel



02-8
PCBN Inserts For
For Hardened Steel



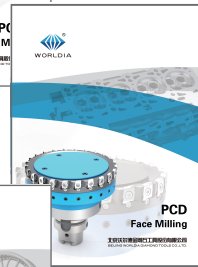
03-8
PCBN Inserts For Cast Iron



04-8
PCBN Inserts For
Machining Powder Metallurgy



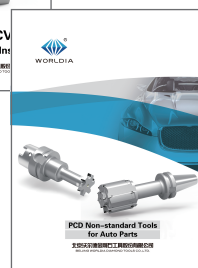
05-8
PCBN Face Milling



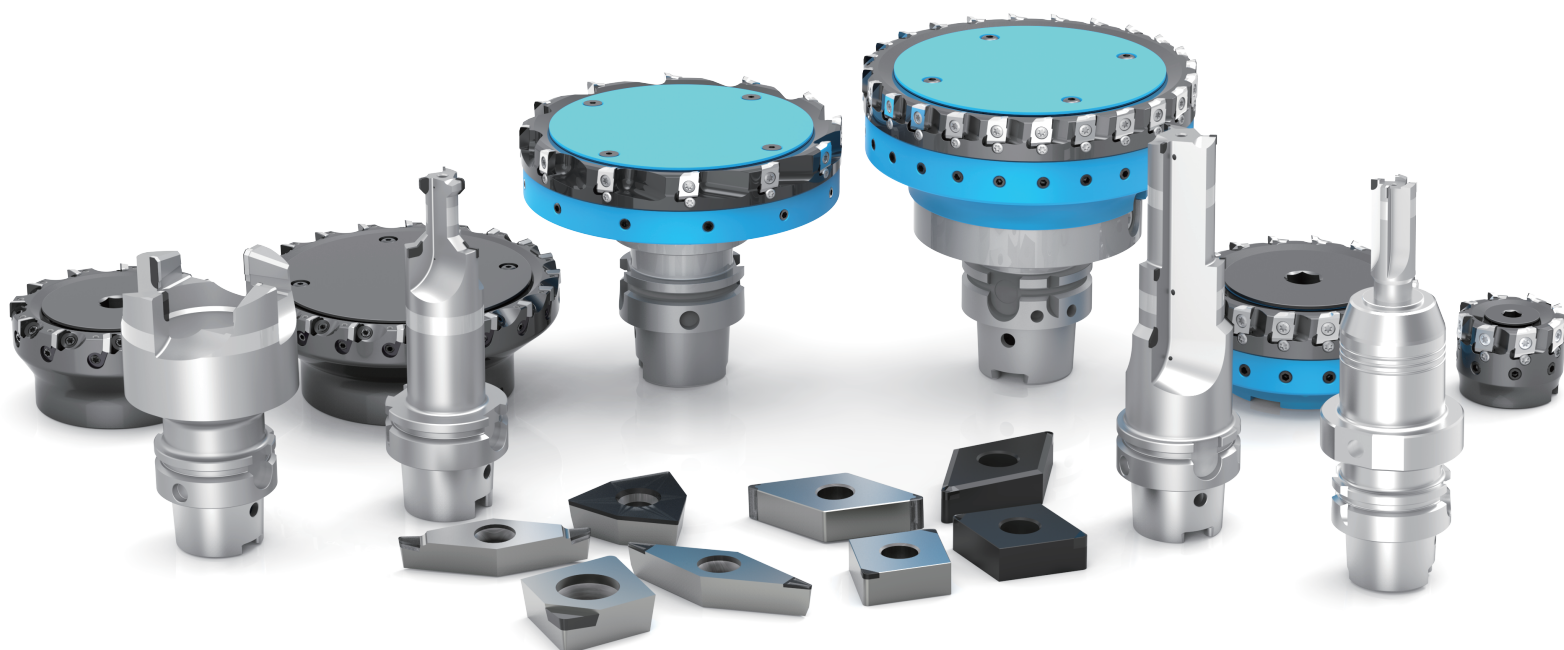
06-8
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