

PCBN刀具可选参数

T	P	G	W	12	04	08	N	I	3	1	-2
(表1)	(表2)	(表3)	(表4)	(表5)	(表6)	(表7)	(表8)	(表9)	(表10)	(表11)	(表12)

(表1) 刀片形状 Insert shape

代号	H	O	P	S	T	C	D	E	F	M	V	W	L	A	B	K	R
形状	正六边形	正八边形	正五边形	正方形	正三角形	菱形						六边形	长方形	平行四边形			圆形
刀尖角	120°	135°	108°	90°	60°	80°	55°	75°	50°	86°	35°	80°	90°	85°	82°	55°	
图形																	

(表2) 主切削刃后角 Major cutting edge clearance angle

									其他需要特别注明的后角
3° A	5° B	7° C	15° D	20° E	25° F	30° G	0° N	11° P	O

(表3) 公差 Tolerances

级别符号 Letter Symbol	公差 Tolerances in mm		
	m(刀尖高) Height of tool tip	S(厚度) Thickness	d (内切圆直径) Diameter of inscribed circle
A	±0.005	±0.025	±0.025
F	±0.005	±0.025	±0.013
C	±0.013	±0.025	±0.025
H	±0.013	±0.025	±0.013
E	±0.025	±0.025	±0.025
G	±0.025	±0.13	±0.025
J	±0.005	±0.13	±0.05 ±0.13
K	±0.013	±0.025	±0.05 ±0.13
L	±0.025	±0.025	±0.05 ±0.13
M	±0.08 ±0.18	±0.13	±0.05 ±0.13
N	±0.08 ±0.18	±0.025	±0.05 ±0.13
U	±0.13 ±0.38	±0.13	±0.08 ±0.25

(参考m级精度按形状, 尺寸分类之明细)

(refer to grade m precision according to the detail of shape and shape dimension)

刀尖高公差Tolerance of nose height

内切圆直径 Diameter of inscribed circle	三角 Triangle	四方 Quadrangle	80° 菱形 80° Diamond shape	55° 菱形 55° Diamond shape	35° 菱形 35° Diamond shape	圆形 Circularity
6.35	±0.08	±0.08	±0.08	±0.11	—	—
9.525	±0.08	±0.08	±0.08	±0.11	±0.13	
12.70	±0.13	±0.13	±0.13	±0.15		
15.875	±0.15	±0.15	±0.15	±0.18		
19.05	±0.15	±0.15	±0.15	±0.18		
25.40	±0.18	±0.18	±0.18			
31.75	—	±0.25				

内切圆直径公差Diameter tolerance of inscribed circle

内切圆直径 Diameter of inscribed circle	三角 Triangle	四方 Quadrangle	80° 菱形 80° Diamond shape	55° 菱形 55° Diamond shape	35° 菱形 35° Diamond shape	圆形 Circularity
6.35	±0.05	±0.05	±0.05	±0.05	—	—
9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
12.70	±0.08	±0.08	±0.08	±0.08	—	±0.08
15.875	±0.10	±0.10	±0.10	±0.10	—	±0.10
19.05	±0.10	±0.10	±0.10	±0.10		±0.10
25.40	±0.13	±0.13	±0.13	—	—	±0.10
31.75	—	±0.20	—	—	—	±0.12

(表4) 断屑槽及加固形式 Chipbreaker and /or fixing type

代号 Code number	N	R	F	A	M	G	W	T	Q	U	B	H	C	J	X	
有无孔 bore has to have no	无 Have no			有 Have												—
孔的形状 bore's shape	—			圆柱孔 Cylinder bore			圆柱孔+单面 40° —60° Cylinder bore+One side		圆柱孔+双面 40° —60° Cylinder bore+Double		圆柱孔+单面 70° —90° Cylinder bore+One side		圆柱孔+双面 70° —90° Cylinder bore+Double		—	
断屑槽 Chipbreaker	无 Have no	单面 One side	双面 Double	无 Have no	单面 One side	双面 Double	无 Have no	单面 One side	无 Have no	双面 Double	无 Have no	单面 One side	无 Have no	双面 Double	—	
形状 Shape																

(表5) 切削刃长度 Cutting edge length

形状 Shape	记号 Mark	切刃长 Length of cutting edge	内切圆 Inscribed Circle	形状 Shape	记号 Mark	切刃长 Length of cutting edge	内切圆 Inscribed Circle	形状 Shape	记号 Mark	切刃长 Length of cutting edge	内切圆 Inscribed Circle
80° 菱形 80° Diamond shape 	06	6.4	6.35	55° 菱形 55° Diamond shape 	07	7.7	6.35	六角形 Hexagon 	03	3.8	5.56
	08	8.0	7.94		11	11.6	9.525		04	4.3	6.35
	09	9.7	9.525		15	15.5	12.70		05	5.4	7.94
	12	12.9	12.70		19	19.4	15.875		06	6.5	9.525
	16	16.1	15.875	35° 菱形 35° Diamond shape 	16	16.6	9.525		08	8.7	12.70
	19	19.3	19.05						10	10.9	15.875
正方形 Square 	06	6.35	6.35	三角形 Triangle 	06	6.9	3.97	圆形 Circularity 	08	8.0	8.0
	07	7.94	7.94		08	8.2	4.76		10	10.0	10.0
	09	9.525	9.525		09	9.6	5.56		12	12.0	12.0
	12	12.7	12.70		11	11.0	6.35		12	12.7	12.70
	15	15.875	15.875		16	16.5	9.525		15	15.875	15.875
	19	19.05	19.05		22	22.0	12.70		16	16.0	16.0
	25	25.4	25.40		27	27.5	15.875		19	19.05	19.05
	31	31.75	31.75		33	33.0	19.05		25	25.0	25.0
									25	25.4	25.40

(表6) 厚度 Insert thickness

记号 Mark	厚度 Insert thickness, mm	记号 Mark	厚度 Insert thickness, mm
01	1.59	06	6.35
T1	1.98	T6	6.75
02	2.38	07	7.94
T2	2.78	09	9.52
03	3.18	T9	9.72
T3	3.97	11	11.11
04	4.76	12	12.70
T4	4.96		
05	5.56		
T5	5.95		

单位(Unit): mm

(表7) 刀尖圆弧半径 Nose radius

记号 Mark	刀尖 Nose
00	其他Other
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
28	2.8
32	3.2

(表8) 方向 Direction

记号 Mark	方向 Direction
R	右手 Right hand
L	左手 Left hand
N	无 No

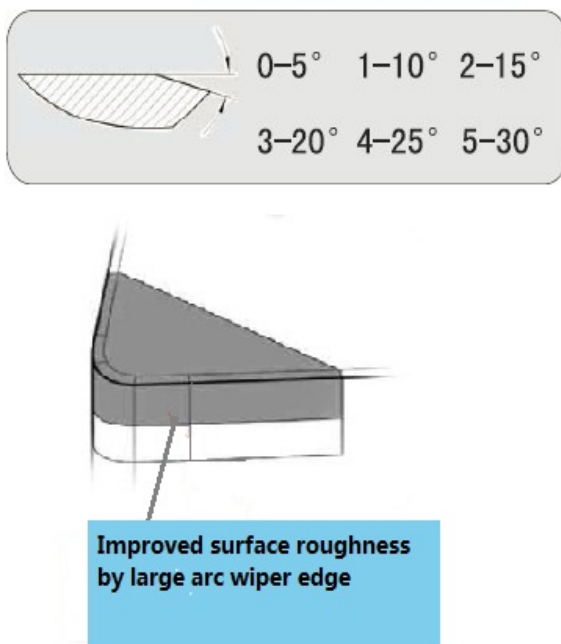
(表9)

刃口形式Profile of edges

代号 Code	刃口形式 Profile of edges	
E	钝化honing	
T	倒棱chamfering	
S	倒棱+钝化 chamfering +honing	
F	锋利刃口sharp edges	

(表10)

倒棱角度
Angle of chamfer



(表11)

倒棱宽度
Width of chamfer

	0-0.10	1-0.15	2-0.20	3-0.25
	4-0.30	5-0.35	6-0.40	7-0.45

(表12)

刀尖数量
Number of cutting edges

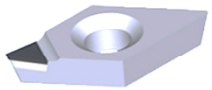
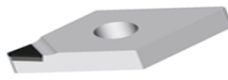
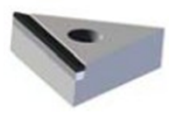
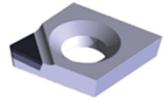
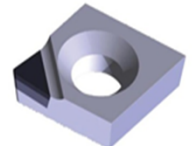
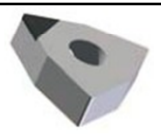
代号 Code	未注 No identification	2 Two	3 Three	4 Four
数量 Number	单刃 1 edge	二刃 2 edges	三刃 3 edges	四刃 4 edges

当刃口形式有特殊需要请按编号规则(新)提供的具体参数, 我们将竭力满足您的需求。

If you have special requirement in the profile of edges, please provide us the detailed parameters based on the coding guide (new). We will try our best to meet your expectations.



PCD INSERTS

Insert shape	TYPE	Dimension(mm)				
		L	C	s	d	R
	VCMT110302	11.1	6.35	3.18	2.8	0.2
	VCMT110304	11.1	6.35	3.18	2.8	0.4
	VCMT110308	11.1	6.35	3.18	2.8	0.8
	VCMT160404	16.6	9.525	4.76	4.4	0.4
	VCMT160408	16.6	9.525	4.76	4.4	0.8
	VCMT160412	16.6	9.525	4.76	4.4	1.2
	VNMA160402	16.6	9.525	4.76	3.81	0.2
	VNMA160404	16.6	9.525	4.76	3.81	0.4
	VNMA160408	16.6	9.525	4.76	3.81	0.8
	VNMA160412	16.6	9.525	4.76	3.81	1.2
	DCMT070202	7.7	6.35	2.38	2.8	0.2
	DCMT070204	7.7	6.35	2.38	2.8	0.4
	DCMT070208	7.7	6.35	2.38	2.8	0.8
	DCMT11T302	11.6	9.525	3.97	4.4	0.2
	DCMT11T304	11.6	9.525	3.97	4.4	0.4
	DCMT11T308	11.6	9.525	3.97	4.4	0.8
	DNMA150404	15.5	12.7	4.76	5.16	0.4
	DNMA150408	15.5	12.7	4.76	5.16	0.8
	DNMA150412	15.5	12.7	4.76	5.16	1.2
	TNMA160404	16.5	9.525	4.76	3.81	0.4
	TNMA160408	16.5	9.525	4.76	3.81	0.8
	TNMA160412	16.5	9.525	4.76	3.81	1.2
	CNMA120404	12.9	12.7	4.76	5.16	0.4
	CNMA120408	12.9	12.7	4.76	5.16	0.8
	CNMA120412	12.9	12.7	4.76	5.16	1.2
	CCMT060202	6.4	6.35	2.38	2.8	0.2
	CCMT060204	6.4	6.35	2.38	2.8	0.4
	CCMT060208	6.4	6.35	2.38	2.8	0.8
	CCMT09T302	9.7	9.525	3.97	4.4	0.2
	CCMT09T304	9.7	9.525	3.97	4.4	0.4
	CCMT09T308	9.7	9.525	3.97	4.4	0.8
	VNMA080404	8.7	12.7	4.76	5.16	0.4
	VNMA080408	8.7	12.7	4.76	5.16	0.8
	VNMA080412	8.7	12.7	4.76	5.16	1.2



PCD INSERTS

Insert shape	TYPE	Dimension(mm)				
		L	C	s	d	R
	SNMA060202	6.35	6.35	2.38	2.8	0.2
	SNMA060204	6.35	6.35	2.38	2.8	0.4
	SNMA060208	6.35	6.35	2.38	2.8	0.8
	SNMA070202	7.94	7.94	2.38	3.4	0.2
	SNMA070204	7.94	7.94	2.38	3.4	0.4
	SNMA070208	7.94	7.94	2.38	3.4	0.8
	SNMA09T302	9.525	9.525	3.97	4.4	0.2
	SNMA09T304	9.525	9.525	3.97	4.4	0.4
	SNMA09T308	9.525	9.525	3.97	4.4	0.8
	SNMA060204	6.35	6.35	2.38	2.8	0.4
	SNMA070202	7.94	7.94	2.38	3.4	0.2
	SNMA09T301	9.525	9.525	3.97	4.4	0.1
	SNMA09T302	9.525	9.525	3.97	4.4	0.2
	SNMA09T304	9.525	9.525	3.97	4.4	0.4
	SPGN090302	9.525	9.525	3.18	☆	0.2
	SPGN090304	9.525	9.525	3.18	☆	0.4
	SPGN090308	9.525	9.525	3.18	☆	0.8
	SPGN120304	12.7	12.7	3.18	☆	0.4
	SPGN120308	12.7	12.7	3.18	☆	0.8
	SPGN120312	12.7	12.7	3.18	☆	1.2
	SNGN090302	9.525	9.525	3.18	☆	0.2
	SNGN090304	9.525	9.525	3.18	☆	0.4
	SNGN090308	9.525	9.525	3.18	☆	0.8
	SNGN120304	12.7	12.7	3.18	☆	0.4
	SNGN120308	12.7	12.7	3.18	☆	0.8
	SNGN120312	12.7	12.7	3.18	☆	1.2

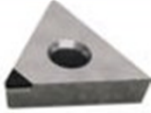
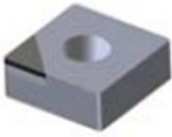
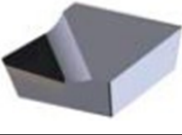
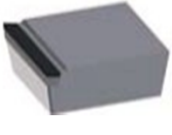


PCBN INSERTS

Insert shape	TYPE	Dimension(mm)				
		L	C	s	d	R
	VNGA160404	16.6	9.525	4.76	3.81	0.4
	VNGA160408	16.6	9.525	4.76	3.81	0.8
	VNGA160412	16.6	9.525	4.76	3.81	1.2
	VBGW160404	16.6	9.525	4.76	4.4	0.4
	VBGW160408	16.6	9.525	4.76	4.4	0.8
	DCGW11T302	11.6	9.525	3.97	4.4	0.2
	DCGW11T304	11.6	9.525	3.97	4.4	0.4
	DCGW11T308	11.6	9.525	3.97	4.4	0.8
	DNMA150404	15.5	12.7	4.76	5.16	0.4
	DNMA150408	15.5	12.7	4.76	5.16	0.8
	DNMA150412	15.5	12.7	4.76	5.16	1.2
	DNGN150404	15.5	12.7	4.76	☆	0.4
	DNGN150408	15.5	12.7	6.35	☆	0.8
	DNGN150412	15.5	12.7	6.35	☆	1.2
	TNGA160402	16.5	9.525	4.76	3.81	0.2
	TNGA160404	16.5	9.525	4.76	3.81	0.4
	TNGA160408	16.5	9.525	4.76	3.81	0.8
	TNGA160412	16.5	9.525	4.76	3.81	1.2
	TCGW090202	9.6	5.56	2.38	2.5	0.2
	TCGW090204	9.6	5.56	2.38	2.5	0.4
	TCGW090208	9.6	5.56	2.38	2.5	0.8
	TCGW110204	11	6.35	2.38	2.8	0.4
	TCGW110208	11	6.35	2.38	2.8	0.8
	TCGW16T304	16.5	9.525	3.97	4.3	0.4
	TCGW16T308	16.5	9.525	3.97	4.3	0.8
	TPGB090204	9.6	5.56	2.38	2.5	0.4
	TPGB090208	9.6	5.56	2.38	2.5	0.8
	TNGN110302	11	6.35	3.18	☆	0.2
	TNGN110304	11	6.35	3.18	☆	0.4
	TNGN110308	11	6.35	3.18	☆	0.8
	TPGN110302	11	6.35	3.18	☆	0.2
	TPGN110304	11	6.35	3.18	☆	0.4
	TPGN110308	11	6.35	3.18	☆	0.8
	CNMA120404	12.9	12.7	4.76	5.16	0.4
	CNMA120408	12.9	12.7	4.76	5.16	0.8
	CNMA120412	12.9	12.7	4.76	5.16	1.2
	CNMA120416	12.9	12.7	4.76	5.16	1.6
	CCGW060202	6.4	6.35	2.38	2.8	0.2
	CCGW060204	6.4	6.35	2.38	2.8	0.4
	CCGW060208	6.4	6.35	2.38	2.8	0.8



PCBN INSERTS

Insert shape	TYPE	Dimension(mm)				
		L	C	s	d	R
	TNGA160402	16.5	9.525	4.76	3.81	0.2
	TNGA160404	16.5	9.525	4.76	3.81	0.4
	TNGA160408	16.5	9.525	4.76	3.81	0.8
	TNGA160412	16.5	9.525	4.76	3.81	1.2
	TCGB090204	9.6	5.56	2.38	2.5	0.4
	TCGB090208	9.6	5.56	2.38	2.5	0.8
	SNGA09T302	9.525	9.525	3.97	4.4	0.2
	SNGA09T304	9.525	9.525	3.97	4.4	0.4
	SNGA090316	9.525	9.525	3.18	3.81	1.6
	SNGA060202	6.35	6.35	2.38	2.8	0.2
	SNGA060204	6.35	6.35	2.38	2.8	0.4
	SNGA060208	6.35	6.35	2.38	2.8	0.8
	SCGW090304	9.525	9.525	3.18	5.16	0.4
	SCGW090308	9.525	9.525	3.18	5.16	0.8
	SCGW090316	9.525	9.525	3.18	5.16	1.6
	SCGW120404	12.7	12.7	4.76	5.5	0.4
	SCGW120408	12.7	12.7	4.76	5.5	0.8
	SCGW120412	12.7	12.7	4.76	5.5	1.2
	SPGN090304	9.525	9.525	3.18	☆	0.4
	SPGN090308	9.525	9.525	3.18	☆	0.8
	SPGN090312	9.525	9.525	3.18	☆	1.2
	SNGN150408	15.875	15.875	4.76	☆	0.8
	SNGN150412	15.875	15.875	4.76	☆	1.2
	SNGN190412	15.875	15.875	4.76	☆	1.2
Insert shape	TYPE	Dimension(mm)				
	SPGN090308	9.525	9.525	3.18	☆	0.8
	SPGN120408	12.7	12.7	4.76	☆	0.8
	SPGN120412	12.7	12.7	4.76	☆	1.2
	SPGN150404	15.875	15.875	4.76	☆	0.4
	SPGN150412	15.875	15.875	4.76	☆	1.2
	HEEN090408	☆	15.92	4.76	☆	0.8
		Inscribing circle			Thiciness	
	RBGN12S3MO-B	12			3.6	
	RBGN16S3MO-B	16			3.6	
	RNGN120400-B	12.7			4.76	
	RNGN150400-B	15.88			4.76	



PCD Recommended Cutting Condition			
Work piece	Cutting Speed	Depth of Cut	Feed Rate
	(m/min)	(mm)	(mm/rev)
Aluminum(5~8% SI)	350~1600	0.05~2.50	0.10~0.40
Aluminum(8~12% SI)	350~1300	0.05~2.50	0.10~0.40
Aluminum(14~18% SI)	160~800	0.05~2.50	0.05~0.25
Copper	350~1000	0.15~2.50	0.05~0.20
Sintered Carbide	15~25	0.05~0.60	0.10~0.20
Glass Fiber	100~800	0.15~0.50	0.03~0.25
Carbon	160~700	0.15~2.50	0.15~0.40
High Aluminum	70~250	0.05~1.50	0.03~0.15
Ceramics			
Wood	1000~2500	0.2~5.0	0.10~0.50

PCBN Recommended Cutting Condition				
Work piece	Cutting method	Cutting speed	Feed	Depth of cut
		(m/min)	Turning (mm/rev)	(mm)
			Milling (mm/tooth)	
Gray cast iron	Turning	400~1000	0.15~0.40	0.12~2.00
(180~230HB)	Milling	400~1000	0.15~0.30	0.20~2.00
Chilled cast iron	Turning	75~150	0.15~0.30	0.12~2.00
(400HB)	Milling	120~240	0.15~0.30	0.20~2.00
Hardened steel	Rough turning	60~140	0.15~0.40	0.70~2.50
(>HRC 45)	Finish turning	100~140	0.10~0.20	0.12~0.75
	Milling	120~240	0.10~0.25	0.12~1.00
Supper alloy	Turning	100~240	0.05~0.30	0.10~2.50
(HRC35)	Milling	100~240	0.10~0.40	0.10~1.00
Sintered metal	Turning	90~180	0.05~0.20	0.10~1.00
	Milling	100~240	0.05~0.20	0.10~1.00
DCI roll, HSS roll	Turning	45~60	0.60~0.80	2.00~4.00