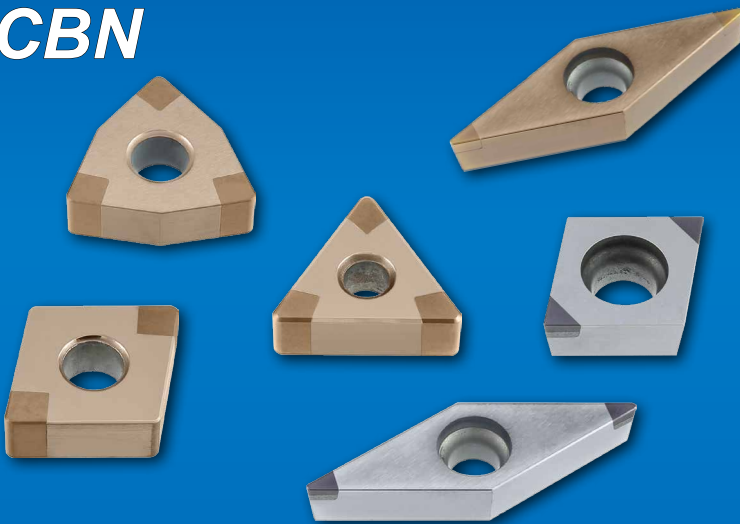
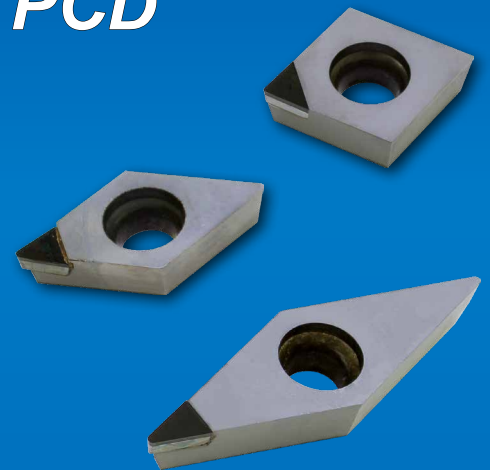


CBN / PCD Turning Inserts

CBN




PCD



- CBN (Cubic Boron Nitride) turning insert suitable for hardened steel (HRC 45~65).
- PCD (Polycrystalline Diamond) turning insert suitable for non-ferrous materials (aluminum alloy, brass, graphite and ceramic).

Turning Insert Grades

CBN Turning Insert Grades

Grade Type	Color	Properties	Application	Working Material						Industry Area	
				P	M	K	N	S	H		
BN6020		<ul style="list-style-type: none"> • PVD (AlTiSiN) • Wear resistance • Fracture resistance 	<ul style="list-style-type: none"> • For hardened steel is 1st recommended • Semi-finishing and rough cutting • Continuous to medium interrupted dry cutting • For high speed cutting 				○			●	<ul style="list-style-type: none"> • Auto small parts • Machinery parts • Aircraft parts
BN20	—	<ul style="list-style-type: none"> • Uncoated • Wear resistance • Fracture resistance 	<ul style="list-style-type: none"> • For small parts cutting • Finishing and medium cutting • Continuous to medium interrupted dry cutting • For general cutting 				○			●	<ul style="list-style-type: none"> • Bike parts • Auto small parts • Electronic parts

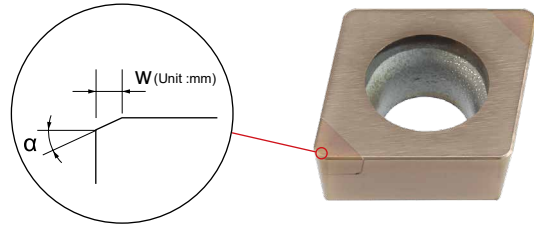
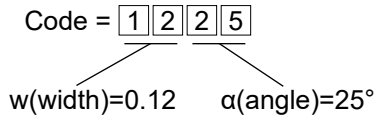
PCD Turning Insert Grades

Grade Type	Color	Properties	Application	Working Material						Industry Area	
				P	M	K	N	S	H		
DA20	—	<ul style="list-style-type: none"> • Uncoated • Wear resistance • Fracture resistance 	<ul style="list-style-type: none"> • Finishing and semi-finishing • General cutting • Good wear resistance 					●			<ul style="list-style-type: none"> • Bike parts • Auto small parts • Electronic parts

Turning Insert Edge Specification

CBN Turning Insert Edge Specification

Edge specification code



Edge specification code	Notation
1225	SM
1725	MM
2725	RM

PCD Turning Insert Edge Specification

Edge specification	
Standard	
With Chip Breaker (※ Made to Order)	

Recommended Cutting Conditions

Recommended Cutting Conditions for CBN Turning Inserts

H Hardened Steel

Work Material	Cutting Process	Grade	ap (mm)	fr (mm/rev)	Vc (m/min)
Hardened Steel (HRC 45 ~ 65)	Semi-finishing and rough cutting	BN6020	0.05-0.30-0.50	0.03-0.20-0.40	180-120-50
	Finishing and medium cutting	BN20	0.03-0.20-0.30	0.03-0.10-0.20	180-100-30

Recommended Cutting Conditions for PCD Turning Inserts

N Non-ferrous Metals

Work Material	Cutting Process	Grade	ap (mm)	fr (mm/rev)	Vc (m/min)
Aluminum alloys (Si < 12%)	Finishing and Semi-finishing	DA20	0.05-0.53-1.0	0.03-0.14-0.25	2700-1700-700
Aluminum alloys (Si > 12%)			0.05-0.53-1.0	0.03-0.11-0.18	800-540-270
Brass			0.05-0.53-1.0	0.05-0.21-0.36	1300-950-600

※ ap & fr value : Min. - Suggestion - Max. Vc : Max. - Suggestion - Min.

Turning Inserts · CBN · Positive

Inserts	Designation	Grade No.				No. of Cutting Edges	Edge Spec.	Dimensions (mm)					Drawing
		PVD		Uncoated				d	l	S	r	h	
		BN6020		BN20									
	CCGW 060202C2-SM	✓		✓		2	1225	6.35	6.4	2.38	0.2	2.8	
	09T302C2-SM	✓		✓		2		9.525	9.7	3.97	0.2	4.4	
	09T304C2-SM	✓		✓		2		9.525	9.7	3.97	0.4	4.4	
	09T308C2-SM	✓		✓		2		9.525	9.7	3.97	0.8	4.4	
	CCGW 060202C2-MM	✓		✓		2	1725	6.35	6.4	2.38	0.2	2.8	
	09T308C2-MM	✓		✓		2		9.525	9.7	3.97	0.8	4.4	
	DCGW 070202C2-SM	✓		✓		2	1225	6.35	7.7	2.38	0.2	2.8	
	070204C2-SM	✓		✓		2		6.35	7.7	2.38	0.4	2.8	
	11T302C2-SM	✓		✓		2		9.525	11.6	3.97	0.2	4.4	
	11T304C2-SM	✓		✓		2		9.525	11.6	3.97	0.4	4.4	
	DCGW 11T308C2-MM	✓		✓		2	1725	9.525	11.6	3.97	0.8	4.4	
	TPGW 090202C3-SM	✓		✓		3	1225	5.56	9.6	2.38	0.2	2.8	
	090204C3-SM	✓		✓		3		5.56	9.6	2.38	0.4	2.8	
	110304C3-SM	✓		✓		3		6.35	11.0	3.18	0.4	3.4	
	110308C3-SM	✓		✓		3		6.35	11.0	3.18	0.8	3.4	
	VBGW 110304C2-SM	✓		✓		2	1225	6.35	11.1	3.18	0.4	2.8	
110308C2-SM	✓		✓		2	6.35		11.1	3.18	0.8	2.8		
160404C2-SM	✓		✓		2	9.525		16.6	4.76	0.4	4.4		
160408C2-SM	✓		✓		2	9.525		16.6	4.76	0.8	4.4		
VBGW 160408C2-MM	✓		✓		2	1725	9.525	16.6	4.76	0.8	4.4		

Turning Inserts · CBN · Negative

Inserts	Designation	Grade No.				No. of Cutting Edges	Edge Spec.	Dimensions (mm)					Drawing
		PVD		Uncoated				d	l	S	r	h	
		BN6020		BN20									
	CNGA 120404C2-SM	✓				2	1225	12.7	12.9	4.76	0.4	5.16	
	CNGA 120408C2-SM	✓				2		12.7	12.9	4.76	0.8	5.16	
	CNGA 120412C2-SM	✓				2		12.7	12.9	4.76	1.2	5.16	
	DNGA 150404C2-SM	✓				2	1225	12.7	15.5	4.76	0.4	5.16	
	DNGA 150408C2-SM	✓				2		12.7	15.5	4.76	0.8	5.16	
	DNGA 150412C2-SM	✓				2		12.7	15.5	4.76	1.2	5.16	
	DNGA 150408C2-MM	✓				2	1725	12.7	15.5	4.76	0.8	5.16	
	TNGA 160404C3-SM	✓				3	1225	9.525	16.5	4.76	0.4	3.81	
	TNGA 160408C3-SM	✓				3		9.525	16.5	4.76	0.8	3.81	
	TNGA 160412C3-SM	✓				3		9.525	16.5	4.76	1.2	3.81	
	TNGA 160408C3-MM	✓				3	1725	9.525	16.5	4.76	0.8	3.81	
	VNGA 160404C2-SM	✓				2	1225	9.525	16.6	4.76	0.4	3.81	
	VNGA 160408C2-SM	✓				2		9.525	16.6	4.76	0.8	3.81	
	WNGA 080408C3-SM	✓				3	1225	12.7	8.7	4.76	0.8	5.16	
	CNGA 120408C4-MM	✓				4	1725	12.7	12.9	4.76	0.8	5.16	
	CNGA 120408C4-RM	✓				4	2725	12.7	12.9	4.76	0.8	5.16	
	DNGA 150408C4-MM	✓				4	1725	12.7	15.5	4.76	0.8	5.16	
	DNGA 150408C4-RM	✓				4	2725	12.7	15.5	4.76	0.8	5.16	
	TNGA 160408C6-MM	✓				6	1725	9.525	16.5	4.76	0.8	3.81	
	TNGA 160408C6-RM	✓				6	2725	9.525	16.5	4.76	0.8	3.81	
	VNGA 160408C4-SM	✓				4	1225	9.525	16.6	4.76	0.8	3.81	
	WNGA 080408C6-MM	✓				6	1725	12.7	8.7	4.76	0.8	5.16	
	WNGA 080408C6-RM	✓				6	2725	12.7	8.7	4.76	1.2	5.16	

Turning Inserts · PCD · Positive

Inserts	Designation	Grade No.								Dimensions (mm)					Drawing	
		Uncoated								d	l	S	r	h		
		DA20														
Finishing to semi-finishing		CCGT 060201	✓								6.35	6.4	2.38	0.1	2.8	
		060202	✓								6.35	6.4	2.38	0.2	2.8	
		060204	✓								6.35	6.4	2.38	0.4	2.8	
		09T301	✓								9.525	9.7	3.97	0.1	4.4	
		09T302	✓								9.525	9.7	3.97	0.2	4.4	
		09T304	✓								9.525	9.7	3.97	0.4	4.4	
		09T308	✓								9.525	9.7	3.97	0.8	4.4	
		DCGT 070201	✓								6.35	7.7	2.38	0.1	2.8	
		070202	✓								6.35	7.7	2.38	0.2	2.8	
		070204	✓								6.35	7.7	2.38	0.4	2.8	
		11T301	✓								9.525	11.6	3.97	0.1	4.4	
		11T302	✓								9.525	11.6	3.97	0.2	4.4	
		11T304	✓								9.525	11.6	3.97	0.4	4.4	
		11T308	✓								9.525	11.6	3.97	0.8	4.4	
		VCGT 110301	✓								6.35	11.1	3.18	0.1	2.8	
		110302	✓								6.35	11.1	3.18	0.2	2.8	
		110304	✓								6.35	11.1	3.18	0.4	2.8	
		160404	✓								9.525	16.6	4.76	0.4	4.4	
		160408	✓								9.525	16.6	4.76	0.8	4.4	