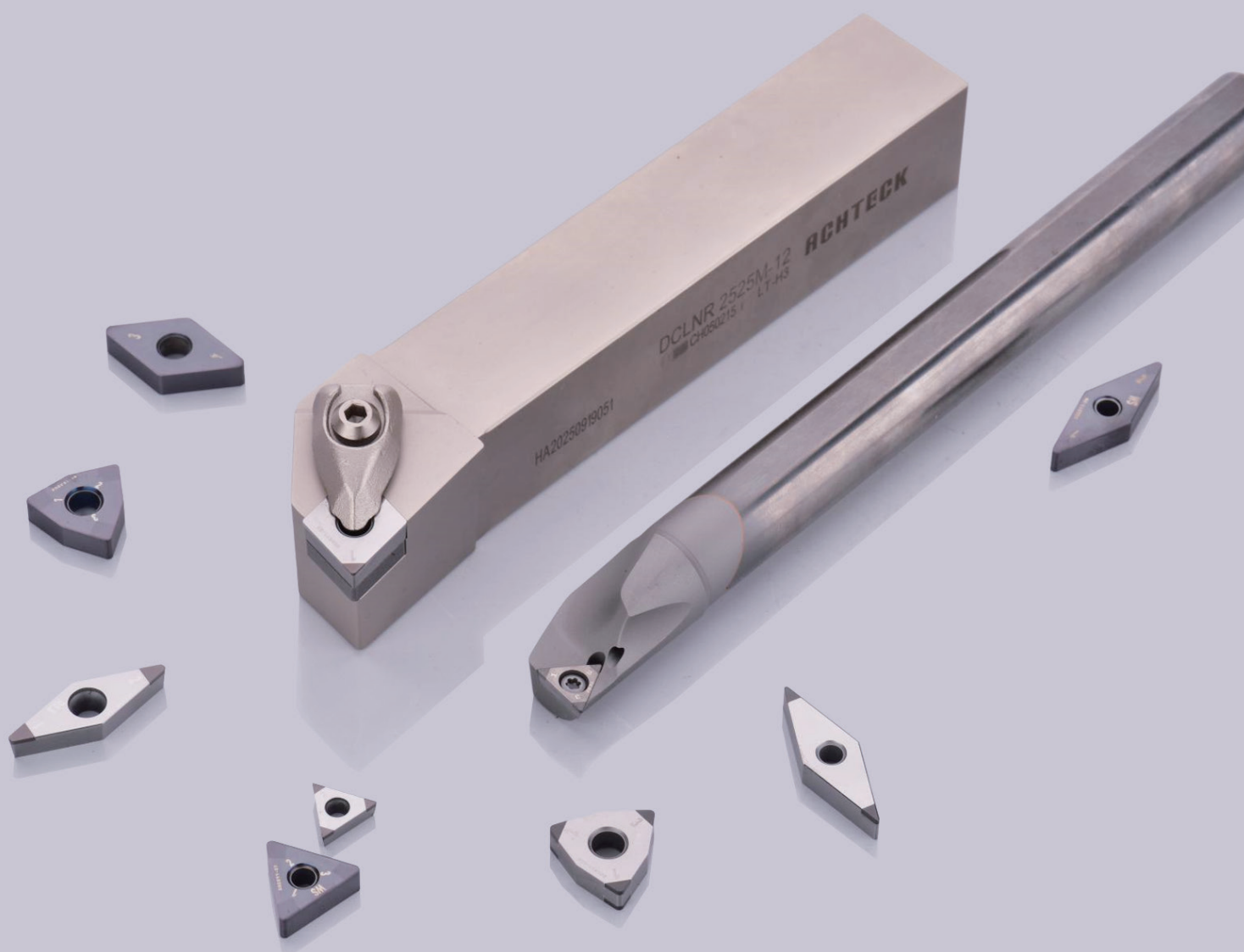
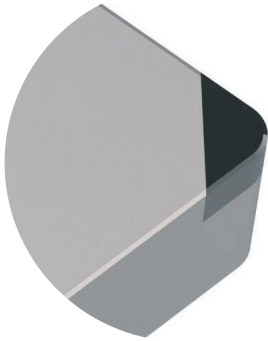


PCBN Turning Inserts

Solutions for Efficiency Improvement in Turning of Hardened Steel



Product Features



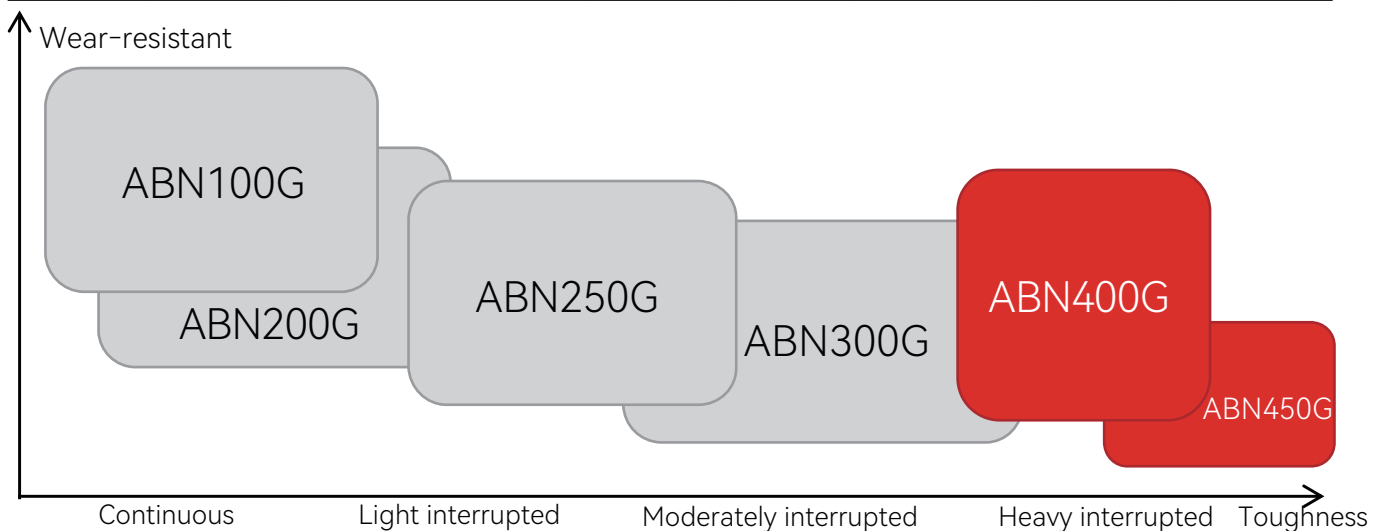
1. A wide range of PCBN grades to confidently handle complex and variable working conditions.
2. High-precision grinding processing to improve the machining quality of workpiece surfaces.
3. Highly compatible cutting edge treatment methods to reduce customers' tool testing costs
4. Imported coating equipment, excellent coating adhesion and performance, extending tool life.

Customer Benefits:

- Rapid access to solutions
- Consistent tool-life performance
- Superior machining efficiency
- Reduced unit production cost

ABN..G High-Performance Grade Introduction

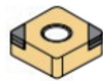
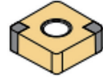
Insert Series	Grade	Characteristics	Application	Cutting Edge (T-land)	Workpiece Materials	Typical Industries	Recommended Cutting Speed Vc (m/min)
Uncoated PCBN	ABN100G	Excellent heat resistance, outstanding crater wear resistance. Suitable of high cutting speeds, small depths of cut and continuous cutting	Continuous finishing	S01020	Hardened steel	Bearings, gears	100-220
	ABN200G	Excellent wear resistance, good impact resistance. Suitable for continuous and light interrupted machining	Continuous, light interrupted	S01020	Hardened steel	Bearings, gears	100-200
	ABN250G	Excellent wear resistance and good toughness, good general-purpose performance, suitable for continuous to medium interrupted cutting	Medium interrupted	S01225	Hardened steel	Bearings, gears	100-170
	ABN300G	Outstanding impact resistance, suitable for medium to heavy interrupted machining	Medium to heavy interrupted machining	S02035	Hardened steel	Bearings, gears	80-150
	ABN400G	Good impact resistance, suitable for interrupted machining of hardened steel, cold-hardened cast iron, and powder metallurgy parts	Interrupted machining	S01225 T01015	Hardened steel	Bearings, gears	90-150
					Gray cast iron	Engine blocks	150-400
	ABN450G	Super strong impact resistance, suitable for heavy interrupted machining of hardened steel, cold-hardened cast iron, and powder metallurgy parts	Heavy interrupted machining	S02035 T01015	Hardened steel	Bearings, gears	90-150
					Gray cast iron	Brake discs	150-400



General Grade Introduction (Coated)

Insert Series	Grade	Characteristics	Application	CBN Content	Workpiece Materials	Typical Industries	Recommended Cutting Speed V _c (m/min)
Coated PCBN	ABN252A	Good general-purpose performance, relatively good impact resistance, suitable for interrupted machining of hardened steel, cold-hardened cast iron, and powder metallurgy parts	Interrupted machining	Approx 60%	Hardened steel	Slewing rings, bearings, gears, laser cladding	80-170

PCBN Insert Denomination System

GNGA120408	—	S01020	—	SL	—	2	—	CB	—	ABN100G
Product	T-land	CBN Insert Structure	Number of cutting edges	Supplementary information	Grade					
ISO Code	Low resistance: T01015 Standard: S01020 Enhanced: S01225 Strong: S02035 T——Land S——Land+Honed	SL——Standard  QI ——Through Welding 	2——2 edges 3——3 edges 4——4 edges 6——6 edges	CB——With chip breaker W ——With wiper edge "None"——Standard	Search for the grade code information					

PCBN Grade Code

A	BN	20	0	G
1	2	3	4	5

1-ACHTECK	2-PCBN Grade Code	3-PCBN Content Code	4-Grade generation	5-Supplementary information
	BN--PCBN	05--Below 40% CBN content	0-First generation	None--General and without coating
		10--40%-45% CBN content	2-Second generation	G--High-performance & without coating
		15--45%-50% CBN content	4-Third generation	A---General & AlTiN coating
		20--50%-60% CBN content	6-Fourth generation	T---General & TiN coating
		25--60%-70% CBN content		X---General & high-hardness coating
		30--70%-75% CBN content		GA--High-performance & AlTiN coating
		35--75%-80% CBN content		
		40--80%-85% CBN content		
		45--85%-90% CBN content		
		50--Above 90% CBN content		

● Cutting Edge (T-land)



● Test case

	Competitor	ACHTECK
Tool's Model	WNGA 080408 S02020 Domestic brand, Through Welding PCBN	WNGA 080408 S02020-QL-6 ABN252A
Machined Part		
Workpiece Material	65Mn HRC55 Wheel hub bearing	
Cutting Speed m/min	215	215
Feed mm/rev	0.2	0.2
Depth of Cut mm	0.15	0.15
Surface Roughness Requirement	Ra < 0.8	Ra < 0.8
Coolant	Water-based cutting fluid	Water-based cutting fluid
Tool Life (pieces/edge)	60	105
Conclusion	Tool's life increased by 75%, surface roughness meets requirements and stable tool life	

	Competitor	ACHTECK
Tool's Model	CCGW 09T304 S01020 Domestic brand	CCGW 09T304 S01020-SL-2 ABN200GA
Machined Part		
Workpiece Material	20CrMnTi HRC58-64 Gear shaft	
Cutting Speed m/min	94	94
Feed mm/rev	0.12 (rough)/0.06 (finish)	0.12 (rough)/0.06 (finish)
Depth of Cut mm	0.2-0.1	0.2-0.1
Surface Roughness Requirement	Ra < 0.8	Ra < 0.8
Coolant	Dry cutting	Dry cutting
Tool Life (pieces/edge)	150	200
Conclusion	Tool's life increased by 33%, surface roughness meets requirements and stable tool life	

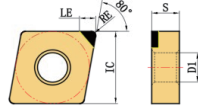
Test case

	Competitor	ACHTECK
Tool's Model	DNGA 150412 S01520 Domestic brand, Through Welding PCBN	DNGA 150412 S01520-QL-4 ABN252A
Machined Part		
Workpiece Material	GCr18Mn HRC58-64 An outer ring in the wind power industry	
Cutting Speed m/min	138	138
Feed mm/rev	0.4	0.4
Depth of Cut mm	0.1-0.2	0.3-0.4
Surface Roughness Requirement	Ra < 3.2	Ra < 3.2
Coolant	Water-based cutting fluid	Water-based cutting fluid
Tool Life (pieces/edge)	0.5-1	1
Conclusion	Efficiency increased by 100%, Tool's life increased by 50%. reduced Non-machining time	

	Competitor	ACHTECK
Tool's Model	VNGA 160408 S02020 Domestic brand, Through Welding PCBN	VNGA 160408 S02020-QL-6 ABN252A
Machined Part		
Workpiece Material	65Mn HRC55 A ring in the bearing industry	
Cutting Speed m/min	163-186	163-186
Feed mm/rev	0.12	0.12
Depth of Cut mm	0.15	0.15
Surface Roughness Requirement	Ra < 0.8	Ra < 0.8
Coolant	Water-based cutting fluid	Water-based cutting fluid
Tool Life (pieces/edge)	150	200
Conclusion	Tool's life increased by 33%, surface roughness meets requirements and stable tool life	

Product List

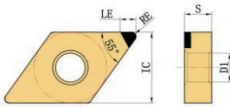
PCBN Turning Inserts-CN12

		Model	IC	S	D1	Symbol Description		Continuous		Light interrupted		Medium interrupted		Heavy interrupted			
		CN_1204_	12.7	4.76	5.16	H	Hardened steel	●	●	⦿	⦿	✱	✱				
						K	Cast iron					●	⦿	✱			
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)												
					High-Performance Series												
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G							
	CNGA 120404 S01020-SL-2	0.4	2.4	S01020	○	○											
	CNGA 120404 S01225-SL-2					○											
	CNGA 120408 S01020-SL-2	0.8	2.2	S01020	○	○											
	CNGA 120408 S01225-SL-2					○		○									
	CNGA 120408 S02035-SL-2								○								
	CNGA 120412 S02035-SL-2	1.2	2.1	S02035					○	○							

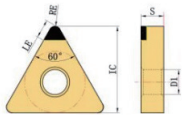
○-Make-to-Order

● Product List

PCBN Turning Inserts-DN15

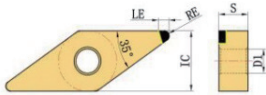
		Model	IC	S	D1	Symbol Description		● Continuous ● Light interrupted ● Medium interrupted ● Heavy interrupted											
		DN_1504_	12.7	4.76	5.16	H	Hardened steel	●	●	●	●	●	●						
		DN_1506_	12.7	6.35	5.16	K	Cast iron				●	●	●						
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)														
					High-Performance Series														
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G									
	DNGA 150404 S01020-SL-2	0.4	2.4	S01020		○													
	DNGA 150404 S01225-SL-2			S01225			○												
	DNGA 150408 S01020-SL-2	0.8	2.0	S01020		○													
	DNGA 150408 S01225-SL-2			S01225			○												
	DNGA 150408 S02035-SL-2			S02035				○		○									
	DNGA 150604 S01020-SL-2	0.4	2.4	S01020		○													
	DNGA 150604 S01225-SL-2			S01225			○												
	DNGA 150608 S01020-SL-2	0.8	2.0	S01020		○													
	DNGA 150608 S01225-SL-2			S01225			○												
	DNGA 150608 S02035-SL-2			S02035				○		○									

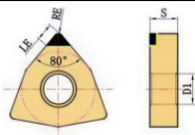
PCBN Turning Inserts-TN16

		Model	IC	S	D1	Symbol Description		● Continuous ● Light interrupted ● Medium interrupted ● Heavy interrupted											
		TN_1604_	9.525	4.76	3.81	H	Hardened steel	●	●	●	●	●	●						
						K	Cast iron					●	●	●					
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)														
					High-Performance Series														
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G									
	TNGA 160404 S01020-SL-3	0.4	2.2	S01020	○	○													
	TNGA 160404 S01225-SL-3			S01225			○												
	TNGA 160408 S01020-SL-3	0.8	1.9	S01020	○	○													
	TNGA 160408 S01225-SL-3			S01225			○		○										
	TNGA 160408 S02035-SL-3			S02035						○									

○-Make-to-Order

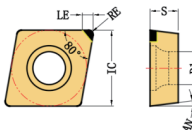
Product List

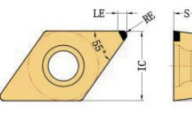
PCBN Turning Inserts-VN16															
	Model	IC	S	D1	Symbol Description		● Continuous		● Light interrupted		● Medium interrupted		● Heavy interrupted		
	VN_1604_	9.525	4.76	5.16	H	Hardened steel	●	●	●	●	●	●			
					K	Cast iron					●	●	●		
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)										
					High-Performance Series										
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G					
	VNGA 160404 S01020-SL-2	0.4	2.7	S01020		○									
	VNGA 160404 S01225-SL-2			S01225			○								
	VNGA 160408 S01020-SL-2	0.8	1.9	S01020		○									
	VNGA 160408 S01225-SL-2			S01225			○								
	VNGA 160408 S02035-SL-2			S02035				○		○					

PCBN Turning Inserts-WN08																
	Model		IC	S	D1	Symbol Description		● Continuous		● Light interrupted		● Medium interrupted		● Heavy interrupted		
	WN_0804_		12.7	4.76	5.16	H	Hardened steel	●	●	●	●	●	●	●	●	
						K	Cast iron				●	●	●			
Picture	Product code		RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)										
						High-Performance Series										
						ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G					
	WNGA 080404 S01020-SL-3		0.4	2.4	S01020	○	○									
	WNGA 080404 S01225-SL-3				S01225			○								
	WNGA 080408 S01020-SL-3		0.8	2.2	S01020	○	○									
	WNGA 080408 S01225-SL-3				S01225			○		○						
	WNGA 080408 S02035-SL-3				S02035						○					
	WNGA 080412 S02035-SL-3		1.2	2.1	S02035				○		○					

○-Make-to-Order

● Product List

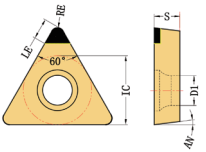
PCBN Turning Inserts-CC09/12 (AN7°)														
	Model	IC	S	D1	Symbol Description		● Continuous ● Light interrupted ● Medium interrupted ● Heavy interrupted							
	CC_09T3_	9.525	3.97	4.4	H	Hardened steel	●	●	●	●	●	●		
	CC_1204_	12.7	4.76	5.5	K	Cast iron				●	●	●		
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)									
					High-Performance Series									
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G				
	CCGW 09T302 S01020-SL-2	0.2	2.5	S01020		○	○							
	CCGW 09T304 S01020-SL-2	0.4	2.4	S01020		○	○							
	CCGW 09T304 S01225-SL-2			S01225			○							
	CCGW 09T308 S01020-SL-2	0.8	2.2	S01020		○	○							
	CCGW 09T308 S01225-SL-2			S01225			○							
	CCGW 120404 S01020-SL-2	0.4	2.4	S01020		○								
	CCGW 120404 S01225-SL-2			S01225			○							
	CCGW 120408 S01020-SL-2	0.8	2.2	S01020		○								
	CCGW 120408 S01225-SL-2			S01225			○							

PCBN Turning Inserts-DC07/11 (AN7°)														
	Model	IC	S	D1	Symbol Description		● Continuous ● Light interrupted ● Medium interrupted ● Heavy interrupted							
	DC_0702_	6.35	2.38	2.8	H	Hardened steel	●	●	●	●	●	●		
	DC_11T3_	9.525	3.97	4.4	K	Cast iron				●	●	●		
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)									
					High-Performance Series									
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G				
	DCGW 070202 T01015-SL-2	0.2	2.4	T01015					○	○				
	DCGW 070204 T01015-SL-2	0.4	2.2	T01015					○	○				
	DCGW 11T304 S01020-SL-2	0.4	2.4	S01020		○								
	DCGW 11T304 S01225-SL-2			S01225			○							
	DCGW 11T308 S01020-SL-2	0.8	2.0	S01020		○								
	DCGW 11T308 S01225-SL-2			S01225			○							

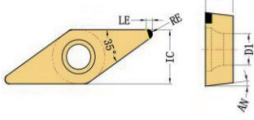
○-Make-to-Order

● Product List

PCBN Turning Inserts-TP08/09/11 (AN11°);TC11(AN7°)

	Model	IC	S	D1	Symbol Description	● Continuous	● Light interrupted	● Medium interrupted	● Heavy interrupted								
	TP_0802	4.76	2.38	2.3	H	Hardened steel	●	●	●	●	●	●	●	●	●	●	●
	TP_0902	5.56	2.38	2.8	K	Cast iron				●	●	●					
	TP_1103	6.35	3.18	3.4													
	TC_1102	6.35	2.38	2.8													
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)												
					High-Performance Series												
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G							
	TPGW 080202 T01015-SL-3	0.2	2.2	T01015					○	○							
	TPGW 080204 T01015-SL-3	0.4	2.0	T01015					○	○							
	TPGW 090202 S01020-SL-3	0.2	2.2	S01020		○	○										
	TPGW 090204 S01020-SL-3	0.4	2.0	S01020		○	○										
	TPGW 110304 S01020-SL-3	0.4	2.0	S01020		○											
	TPGW 110304 S01225-SL-3			S01225			○										
	TPGW 110308 S01020-SL-3	0.8	1.7	S01020		○											
	TPGW 110308 S01225-SL-3			S01225			○										
	TCGW 110202 T01015-SL-3	0.2	2.2	T01015					○	○							
	TCGW 110204 T01015-SL-3	0.4	2.0	T01015					○	○							

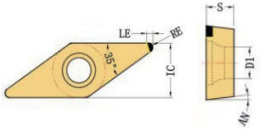
PCBN Turning Inserts-VB11/16 (AN5°)

	Model	IC	S	D1	Symbol Description	● Continuous	● Light interrupted	● Medium interrupted	● Heavy interrupted								
	VB_1103	6.35	3.18	2.8	H	Hardened steel	●	●	●	●	●	●	●	●	●	●	●
	VB_1604	9.525	4.76	4.4	K	Cast iron				●	●	●					
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)												
					High-Performance Series												
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G							
	VBGW 110304 S01020-SL-2	0.4	2.7	S01020		○											
	VBGW 110304 S01225-SL-2			S01225			○										
	VBGW 110308 S01020-SL-2	0.8	1.9	S01020		○											
	VBGW 110308 S01225-SL-2			S01225			○										
	VBGW 160404 S01020-SL-2	0.4	2.7	S01020		○											
	VBGW 160404 S01225-SL-2			S01225			○										
	VBGW 160408 S01020-SL-2	0.8	1.9	S01020		○											
	VBGW 160408 S01225-SL-2			S01225			○										

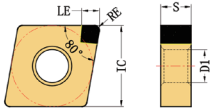
○-Make-to-Order

● Product List

PCBN Turning Inserts-VC11/16 (AN7°)

		Model	IC	S	D1	Symbol Description	● Continuous	● Light interrupted	● Medium interrupted	● Heavy interrupted				
		VC_1103	6.35	3.18	2.8	H Hardened steel	●	●	●	●	●	●	●	●
		VC_1604	9.525	4.76	4.4	K Cast iron				●	●	●		
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (Uncoated)									
					High-Performance Series									
					ABN100G	ABN200G	ABN250G	ABN300G	ABN400G	ABN450G				
	VCGW 110304 S01020-SL-2	0.4	2.7	S01020		○								
	VCGW 110304 S01225-SL-2			S01225			○							
	VCGW 110308 S01020-SL-2	0.8	1.9	S01020		○								
	VCGW 110308 S01225-SL-2			S01225			○							
	VCGW 160404 S01020-SL-2	0.4	2.7	S01020		○								
	VCGW 160404 S01225-SL-2			S01225			○							
	VCGW 160408 S01020-SL-2	0.8	1.9	S01020		○								
	VCGW 160408 S01225-SL-2			S01225			○							

Through Welding PCBN-QL Series

		Model	IC	S	D1	Symbol Description	● Continuous	● Light interrupted	● Medium interrupted	● Heavy interrupted				
		CN_1204_	12.7	4.76	5.16	H Hardened steel	●							
						K Cast iron								
Picture	Product code	RE (mm)	LE (mm)	Cutting Edge	Grade (With AlTiN Coating)									
					ABN252A									
	CNGA 120404 S02020-QL-4	0.4	3.5	S02020	○									
	CNGA 120408 S02020-QL-4	0.8	3.4		○									
	CNGA 120412 S02020-QL-4	1.2	3.3		○									
	DNGA 150404 S02020-QL-4	0.4	3.4	S02020	○									
	DNGA 150408 S02020-QL-4	0.8	3.2		○									
	TNGA 160404 S02020-QL-6	0.4	3.4	S02020	○									
	TNGA 160408 S02020-QL-6	0.8	3.2		○									
	TNGA 160412 S02020-QL-6	1.2	2.8		○									
	VNGA 160404 S02020-QL-4	0.4	3.6	S02020	○									
	VNGA 160408 S02020-QL-4	0.8	2.7		○									
	WNGA 080404 S02020-QL-6	0.4	3.5	S02020	○									
	WNGA 080408 S02020-QL-6	0.8	3.4		○									
	WNGA 080412 S02020-QL-6	1.2	3.3		○									

○-Make-to-Order