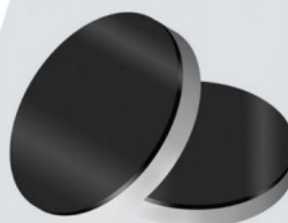
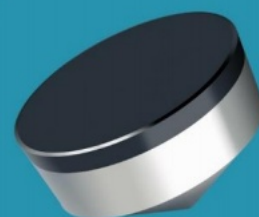
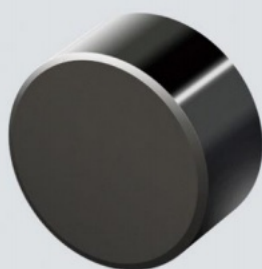




CARBIDE



**ZHUZHOU CHUANGDE
CEMENTED CARBIDE CO., LTD**

Supply of the entire industry
chain of carbon, nitrogen and boron materials

Company profile



ZHUZHOU CHUANGDE CEMENTED CARBIDE CO., LTD

ZHUZHOU CHUANGDE CEMENTED CARBIDE CO.,LTD, is a high-tech enterprise integrating scientific research, production, sales and services. The company's main products include hexagonal boron nitride (hBN) powder, cubic boron nitride (CBN) single crystal, cubic boron nitride powder, polycrystalline cubic boron nitride blades, multi-grade cubic boron nitride composite tool materials, polycrystalline diamond composite tool materials, PDC coalfield geological drilling polycrystalline diamond composite sheet, PDC oil and gas drilling multi-grade diamond composite sheet, etc.

The company has a strong R&D team, adhering to the concept of independent R&D, mastering the core technology of carbon, nitrogen and boron materials, with advanced production process technology and equipment and perfect modern testing methods. It is the largest domestic supplier of carbon, nitrogen and boron materials in the entire industry chain.

The company adheres to the business philosophy of "providing 'materials' to manufacturers, 'products' to dealers, and 'services' to end users", adheres to the principle of "customer first", provides customers with high-quality products and satisfactory services, and truly provides the market with a full range of carbon, nitrogen and boron materials products with "excellent quality, full variety and low cost".

Product introduction



六方氮化硼 hBN

Hexagonal boron nitride is a crystal composed of nitrogen and boron atoms in a hexagonal network, which are stacked on each other. It is a soft, loose, smooth, and moisture-absorbing white powder, commonly known as "white graphite", with a structure similar to graphite.

Hexagonal boron nitride is a ceramic material with excellent thermal conductivity, electrical insulation, lubricity, thermal shock resistance, and good chemical stability.

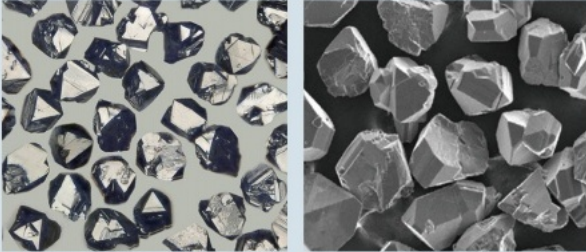
Product Specifications	purity	B ₂ O ₃ content	Carbon content	Crystal grain size (um)	Bulk density (g/cm ³)
PBN700	>99.5%	< 0.3%	< 0.05%	1~5	0.3~0.4
PBN500	>99%	< 0.6%	< 0.1%	1~5	0.3~0.4
PBN300	>98%	0.6~1.2%	< 0.1%	1~5	0.2~0.3
PBN100	>97%	1.0~3.0%	< 0.1%	1~5	0.2~0.3

Application

- High-temperature solid lubricants, extrusion anti-wear additives, metallurgical and glass release agents.
- Utilizing their dielectric properties and dielectric loss characteristics, these materials find applications in industries such as microelectronics, 5G, and functional devices.
- Thermal management materials, serving as thermal conductive fillers, are applied in industries such as new-type batteries and chip packaging.
- Composite ceramic materials, refractory materials, and anti-oxidation material additives.
- Boron nitride products made into various shapes can be used for high-temperature, high-pressure, insulating, and heat-dissipating components.
- Cubic boron nitride can be synthesized under high temperature and pressure in the presence of a catalyst.
- Thermal shielding materials in aerospace, and structural materials for atomic reactors.
- High-temperature resistant boron nitride coatings, which can improve the service life of refractory materials.
- Utilizing its good insulating properties, it is applied in fields such as high-voltage switches.
- Good hydrogen storage materials.

Cubic Boron Nitride Single Crystal

DL-8500A

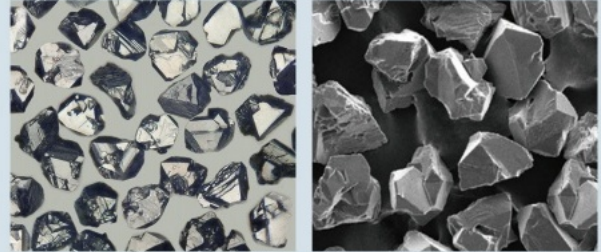


Ti Value ≥ 76 available particle size: 80/100~325/400

Product Description:

Bright black single crystals with a complete regular block structure, featuring multiple and intact crystal faces, sharp edges, higher strength, and thermal stability. These crystals can meet the requirements of high-intensity grinding and are suitable for metal and ceramic binder systems.

DL-8500B

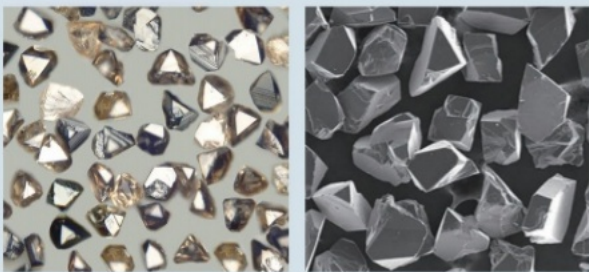


Ti Value ≥ 71 available particle size: 80/100~325/400

Product Description:

Bright black single crystals with an irregular block structure, featuring more edges and corners, perfectly combining sharpness and self-sharpening properties. With high strength and thermal stability, they achieve a balance between high efficiency and long service life. Suitable for ceramic bond and high-strength resin bond systems.

DL-7800A

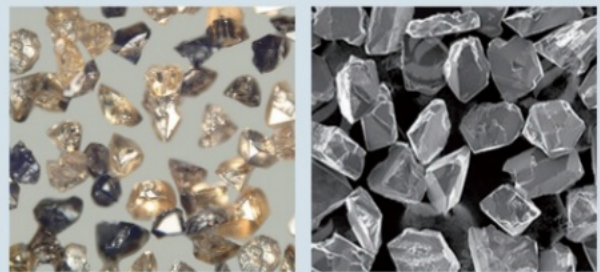


Ti Value ≥ 69 available particle size: 80/100~325/400

Product Description:

Brown blocky single crystals with regular crystal form, high strength, and high thermal stability, featuring layered cleavage planes. Suitable for high-temperature ceramic, metal, and electroplating binder systems.

DL-7800B



Ti Value ≥ 73 available particle size: 80/100~325/400

Product Description:

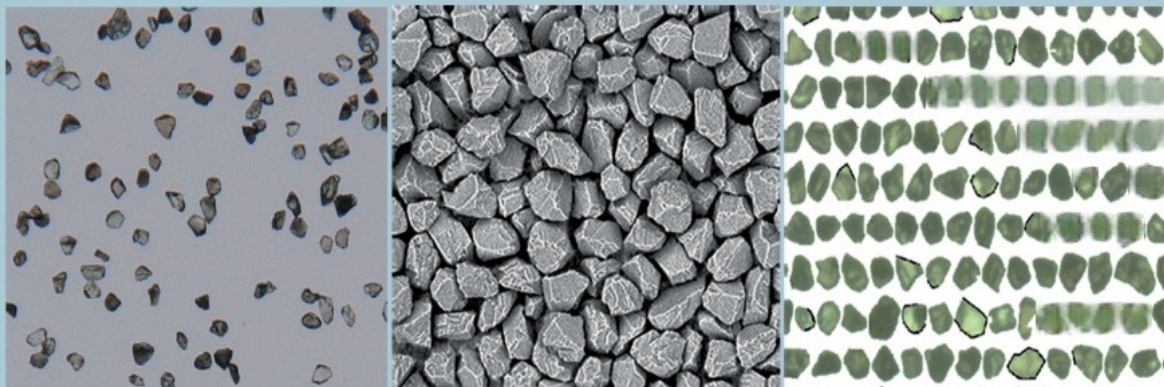
Brown single crystals with an irregular shape, high sharpness, and excellent micro-crushing performance. Suitable for high-temperature ceramic, resin, and electroplating binder systems.

Product Description: Cubic Boron Nitride (CBN)

Cubic Boron Nitride (CBN) is a super-hard abrasive with high strength and wear resistance. It boasts excellent hardness close to that of diamond and outstanding thermal stability, widely regarded as one of the greatest technological advancements in abrasive history. Compared with traditional abrasives such as aluminum oxide and silicon carbide, CBN offers higher hardness, wear resistance, and thermal conductivity. Its wear resistance and hardness are more than four times those of traditional abrasives. Its unique chemical properties make it particularly suitable for grinding ferrous metal materials.

The thermal stability of CBN abrasives and their ability to maintain sharp cutting edges during the processing of iron-based materials make them the preferred product for advanced grinding systems. When grinding ferrous metals, no chemical reaction occurs between CBN and the workpiece. When grinding alloy steel, CBN demonstrates low grinding resistance and high efficiency, ensuring both excellent surface quality and microstructural integrity of the workpiece while significantly improving efficiency and reducing costs. This makes CBN abrasives the material of choice for high-performance grinding wheels, suitable for grinding various materials such as cast iron and hard steel.

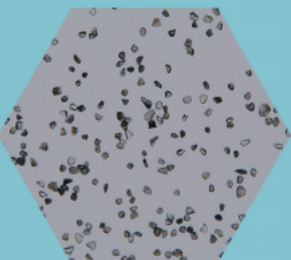
Cubic Boron Nitride (CBN) Micropowder



Cubic Boron Nitride (CBN) Micropowder

Cubic Boron Nitride (CBN) Micropowder is a powder formed by crushing, shaping, purifying, and selecting CBN single crystals. It is classified into sintered micropowder and ultra-precision grinding micropowder.

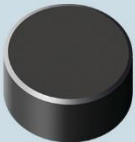
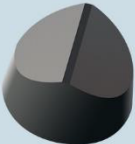
CBN micropowder features excellent self-sharpening properties and high purity, making it suitable for applications such as sintering superhard cutting tools, grinding, polishing, and ultra-precision lapping.

Picture	Grain Size	D50 value	remarks
	N1-2	1.25~1.6 μ m	Zhuzhou Chuangde can currently provide: BTM sintered micro-powder: With a wide particle size range, used for composite sheets and sintered bodies; Conventional micro-powder: In line with international standard particle sizes.
	N2-4	2.5~3.1 μ m	
	N3-6	4~4.5 μ m	
	N4-8	5.2~6.2 μ m	
	N5-10	6.3~7.4 μ m	
	N6-12	7.8~9 μ m	
	N8-16	10~11.5 μ m	
	N10-20	13~15 μ m	
	N15-25	17~20 μ m	
	N20-30	21.5~23 μ m	
	N22-36	26~29 μ m	
	N30-40	29~32 μ m	

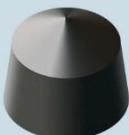
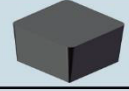
Grades and Applications of PCBN Blade Materials

Grade	Microstructure	CBN Content (Vo1%)	Basic Grain Size of CBN (um)	Binder	Workpiece material	Main application areas
CDS3800		95	5~25	A1/Co	Gray cast iron Alloy cast iron	Transmission, Pulley, Brake disc, Engine, Flywheel, Brake drum, etc.
CDS2800A		90	5~35	A1/Co	Gray cast iron Alloy cast iron	Transmission, pulley, brake disc, engine, flywheel, brake drum, etc.
CDS2900		75	5~15	Al/Tic/Wc/Co	Ductile iron (nodular cast iron), compacted graphite iron (CGI)	Brake drum, automobile wheel hub, crankshaft, etc.
CDS3100		90	5~10	A1/Co	Gray iron (gray cast iron), alloy cast iron	Brake disc, brake drum, compressor etc.
CDS3500		80	1~5	A1/Co	gray cast iron	Brake disc, brake drum, compressor, etc.
CDS6500		65	1~5	A1/Tic/Wc/Co	Forged hard steel Cast hard steel	Rolling screw, gear, bearing, wheel hub unit, drive shaft, constant velocity joint (CV joint), etc.
CDS600		55	1~5	A1/Tic/Wc/Co	Forged hard steel Cast hard steel	Rolling screw, gear, bearing, wheel hub unit, drive shaft, etc.
CDS600A		55	5~10	A1/Tic/Wc/Co		

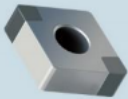
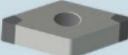
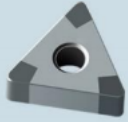
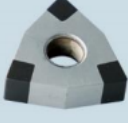
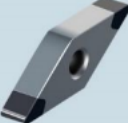
Solid Sintered PCBN Insert

Insert Picture	Insert Model	L Cutting Edge Length	ϕ i.C Inscribed Circle Diameter	S Insert Thickness
	RNGN0604	--	6.35	4.76
	RNGN0904	--	9.525	4.76
	RNGN0907	--	9.525	7.94
	RNGN10T3	--	10.0	3.97
	RNGN1204	--	12.7	4.76
	RNGN1207	--	12.7	7.94
	RNGN1304	--	13.4	4.76
	RNGN1608	--	16.0	8.0
	RNGN1908	--	19.05	8.0
	RNGN1910	--	19.05	10.0
	RNGN2008	--	20.0	8.0
	RNGN2010	--	20.0	10.0
	RNGN2012	--	20.0	12.0
	RNGN2108	--	21.0	8.0
	RNGN2508	--	25.0	8.0
	RNGN2510	--	25.0	10.0
	RNGN2512	--	25.0	12.0
	RNGN3210	--	32.0	10.0
	RNGN3812	--	38.0	12.0
	RCGV0604	--	6.35	4.76
	RCGV0605	--	6.35	5.0
	RCGV0907	--	9.525	7.94
	RCGV1207	--	12.7	7.94
	RCGV1510	--	15.875	10.0
	RCGV1910	--	19.05	10.0
	RCGV2010	--	20.0	10.0
	RCGV2510	--	25.0	10.0
	RCGV2512	--	25.0	12.0
	RCGV3210	--	32.0	10.0
	RCGV3812	--	38.0	12.0

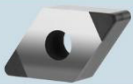
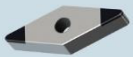
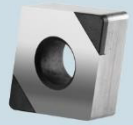
Solid Sintered PCBN Insert

Insert Picture	Insert Model	L Cutting Edge Length	φ i.C Inscribed Circle Diameter	S Insert Thickness
	RCGX0605	--	6.35	5.0
	RCGX0907	--	9.525	7.94
	RCGX1207	--	12.7	7.94
	RCGX1510	--	15.875	10.0
	RCGX1910	--	19.05	10.0
	RCGX2010	--	20.0	10.0
	SNGN0904□□	9.525	9.525	4.76
	SNGN1204□□	12.7	12.7	4.76
	SNGN1207□□	12.7	12.7	7.94
	SNGN1608□□	16.0	16.0	8.0
	SNGN1907□□	19.0	19.05	7.94
	SNGN2010□□	20.0	20.0	10.0
	SNEN0903□□	9.525	9.525	3.18
	SNFN1204□□	12.7	12.7	4.76
	CNGN0904□□	9.7	9.525	4.76
	CNGN1204□□	12.9	12.7	4.76
	CNGN1207□□	12.9	12.7	7.94
	CNGN1608□□	16.1	15.875	8.0
	DNGN1104□□	11.6	9.525	4.76
	DNGN1206□□	12.0	10.0	6.35
	DNGN1504□□	15.5	12.7	4.76
	TNGN1103□□	11.0	6.35	3.18
	TNGN1604□□	16.5	9.525	4.76
	TNGN2204□□	22.0	12.7	4.76
	TCGN1603□□	16.5	9.525	3.18
	TPGN1103□□	11.0	6.35	3.18
	WNGN0804□□	8.7	12.7	4.76
	WNGN0806□□	8.7	12.7	6.35
	SCGN0904□□	9.525	9.525	4.76
	SCGN1204□□	12.7	12.7	4.76

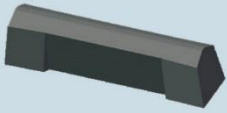
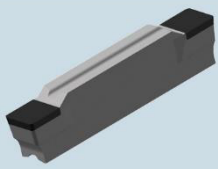
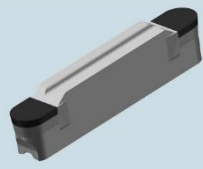
Solid Sintered PCBN Insert

Insert Picture	Insert Model	L Cutting Edge Length	ϕ i.C Inscribed Circle Diameter	S Insert Thickness
	CNGA1204□□-ZH	12.9	12.7	4.76
	DNGA1504□□-ZH	15.5	12.7	4.76
	DNGA1506□□-ZH	15.5	12.7	6.35
	TNGA1604□□-ZH	16.5	9.525	4.76
	TNGA2204□□-ZH	22.0	12.7	4.76
	TNGA2206□□-ZH	22.0	12.7	6.35
	WNGA0804□□-ZH	8.7	12.7	4.76
	SNGA1204□□-ZH	12.7	12.7	4.76
	VNGA1604□□-ZH	16.6	9.525	4.76

PCBN Composite Insert

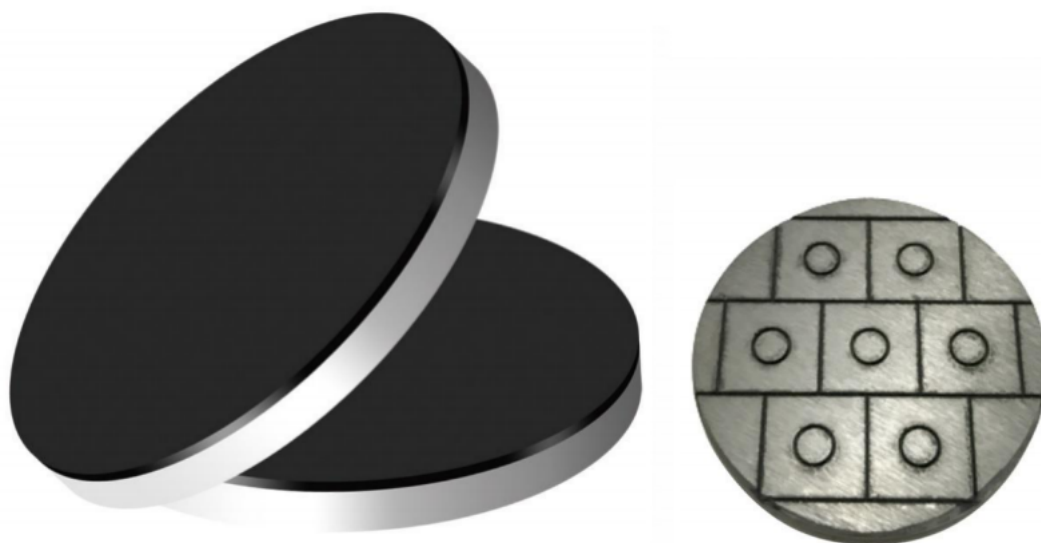
Insert Picture	Insert Model	L Cutting Edge Length	φi.C Inscribed Circle Diameter	S Insert Thickness
	DNGA1504□□-H	15.5	12.7	4.76
	DNGA1506□□-H	15.5	12.7	6.35
	VNGA1604□□-H	16.6	9.525	4.76
	VBGW1604□□-H	16.6	9.525	4.76
	VCGW1604□□-H	16.6	9.525	4.76
	CNGA1204□□-H	12.9	12.7	4.76
	APKT1604-H	--	--	4.76

PCNB groove insert

Insert Picture	Insert Model	Insert Picture	Insert Model
	SQ0420□□		SQ042020
	SQ0525□□		SQ052525
	SQ0625□□		SQ062530
	Q0321□□		Q032115
	Q0425□□		Q042520
	Q0525□□		Q052525
	Q0630□□		Q063030
	Q0608-14		
	Q0810-14		
	Q1008-16		
	Q1011-14		
	Q10085-20		

Polycrystalline Cubic Boron Nitride Composite (Tool) Material

PCBN Composite Insert



Product Advantages

- With years of accumulated formulation and processing expertise, our materials offer outstanding advantages in wear resistance, uniformity, and density.
- Advanced ultra-high pressure (UHP) technology ensures an industry-leading yield rate and synthesis efficiency that remain unmatched.
- Stable mass production and supply with a wide product range – available in blanks, semifinished, and precision-ground inserts.

Product Specifications

Dimensions	GRADE	CBN Grain Size	Binder	Binder	Applications
Φ60x2.0 Φ60x 3.2 Φ60x4.0 Φ60x4.76	CD7800	90%	1~5μm	Al/Co/C	Alloy cast iron materials, such as engine cylinder heads, cylinder liners, engine blocks, and transmission housings.
	CD9000	95%	5~15μm	Al/Co/AlN	Gray cast iron materials, such as brake discs, brake drums, and compressors.
	CD2900	75%	5~15μm	Al/TiC/WC/Co	Ductile (nodular) cast iron materials, such as brake drums, automotive wheel hubs, and crankshafts.
	CD6500	65%	1~5μm	Al/TiC/WC/Co	Forged and cast hard steel materials, such as ball screws, gears, bearings, wheel hub units, cages, and drive shafts.
	CD6000	55%	1~5μm	Al/TiC/WC/Co	Forged and cast hard steel materials, such as ball screws, gears, bearings, drive shafts, and wheel hub assemblies.

PCD Composite Tool Material

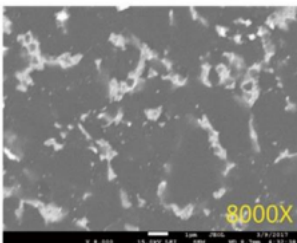
PCD composite sheet



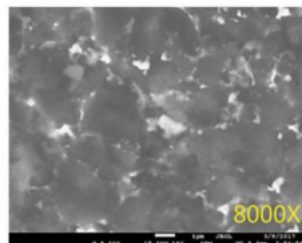
Product Introduction

Diameter: 55mm, Grade: BT010. Developed using Ningbor Technology' s proprietary material preparation techniques, the diamond particles are firmly bonded, providing excellent toughness and chipping resistance. This ensures that the PCD tools deliver high efficiency, long service life, and superior precision in machining non-ferrous metals and non-metallic materials.

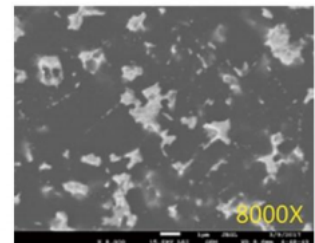
Nitrogen Boron
Technology



International Brands

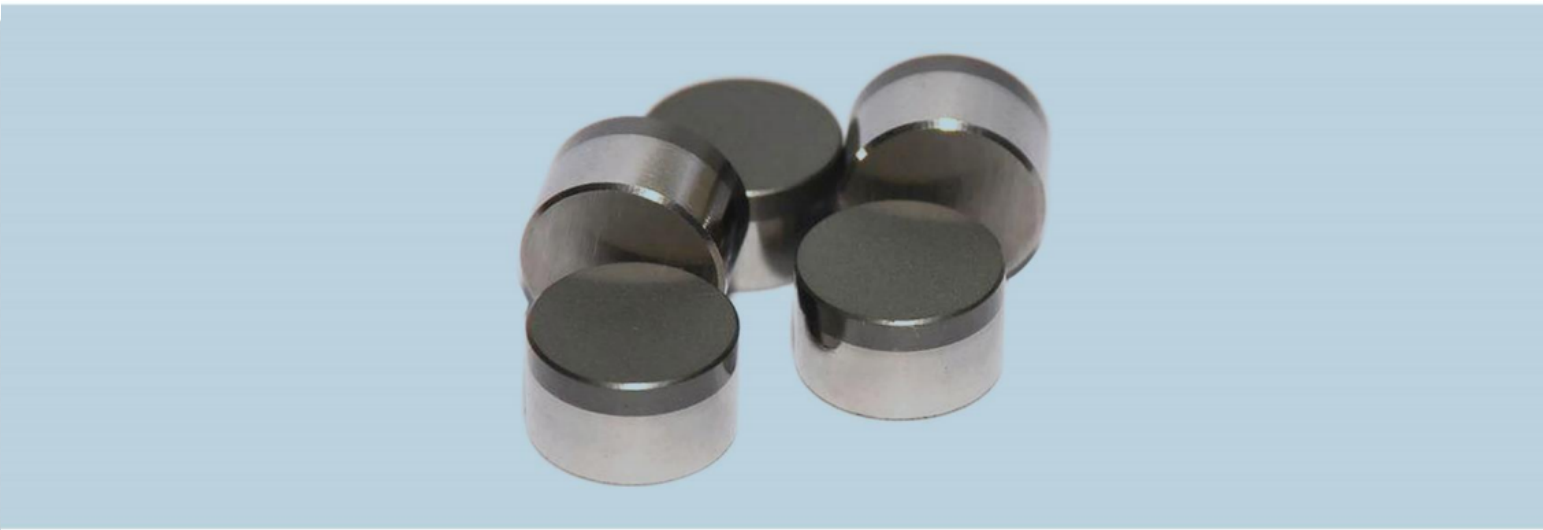


Local Brands



From the SEM images above, observed at 8000× magnification, it is evident that the binder (bright spots) in Zhuzhou Chuangde' s PCD material is evenly distributed. The diamond particles exhibit fusion growth with high bonding strength, and the sintered structure is dense without any porosity. In comparison, Zhuzhou Chuangde' s microstructure closely resembles that of foreign brands.

PCD Composite Inserts for Coalfield Geological Exploration



Product Introduction

- High hardness, exceptional wear resistance, and impact resistance;
- Selected high-quality diamond and cemented carbide sintered under high temperature and high pressure.
- Widely used in geological exploration, coalfield drilling, and mining applications.

Product Specifications

Product Pictures	model	OD(mm)	Height(mm)
	JF1304	13.3	4.5
	JF1308	13.44	8.0
	JF1613	16.0	13.2
	JF1908	19.05	8.0
	JF1913	19.05	13.2

PCD Composite Inserts for Oil & Gas Drilling



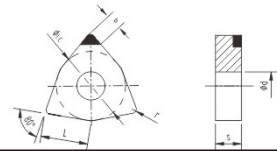
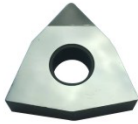
Product Introduction

- Advanced manufacturing process with excellent wear resistance, impact resistance, and thermal stability;
- The diamond layer is tightly bonded with the alloy substrate.
- Designed to meet the demands of complex geological formations, suitable for oil and natural gas drilling applications.

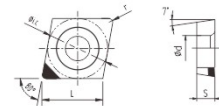
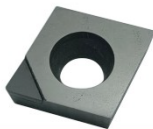
Product Specifications

Product Pictures	model	OD(mm)	Height(mm)
	JF1304	13.3	4.5
	JF1308	13.44	8.0
	JF1613	16.0	13.2
	JF1908	19.05	8.0
	JF1913	19.05	13.2

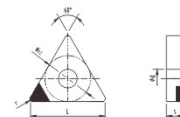
PCD Insert



Model	Size				
Iso	L	Φi.c	S	Φd	r
WNMN080404	8	12.7	4.76	—	0.4
WNMN080408	8	12.7	4.76	—	0.8
WNMN080412	8	12.7	4.76	—	1.2
WNMN080420	8	12.7	4.76	—	2

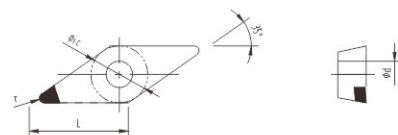


Model	Size				
Iso	L	Φi.c	S	Φd	r
CCGW09T304	9	9.525	3.97	4.4	0.4
CCGW09T308	9	9.525	3.97	4.4	0.8
CCGW09T312	9	9.525	3.97	4.4	1.2
CCGW120404	12	12.7	4.76	5.5	0.4
CCGW120408	12	12.7	4.76	5.5	0.8
CCGW120412	12	12.7	4.76	5.5	1.2

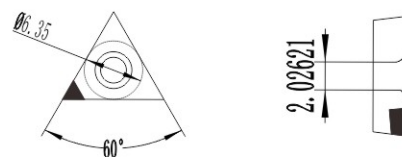
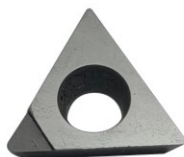


Model	Size				
Iso	L	Φi.c	S	Φd	r
TNGA160408	16	9.525	4.76	3.81	0.8
TNGA160412	16	9.525	4.76	3.81	1.2
TNGA220408	22	12.7	4.76	5.16	0.8
TNGA220412	22	12.7	4.76	5.16	1.2

PCD Insert

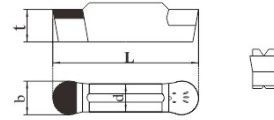


Model	Size				
Iso	L	Φi.c	S	Φd	r
VNGA160404	16	9.525	4.76	4.5	0.4
VNGA160408	16	9.525	4.76	4.5	0.8
VNGA160412	16	9.525	4.76	4.5	1.2

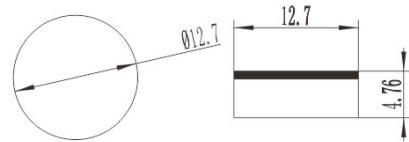


Model	Size			
Iso	Φ i.c	S	Φ d	r
TCGW090202	5.56	2.38	2.5 2.8 3.0	0.2
TCGW090204	5.56	2.38	2.5 2.8 3.0	0.4
TCGW090208	5.56	2.38	2.5 2.8 3.0	0.8
TCGW110202	6.35	2.38	2.8	0.2
TCGW110204	6.35	2.38	2.8	0.4
TCGW110208	6.35	2.38	2.8	0.8
TCGW110302	6.35	3.18	2.6 3.2 3.4	0.2
TCGW110304	6.35	3.18	2.6 3.2 3.4	0.4
TCGW110308	6.35	3.18	2.6 3.2 3.4	0.8

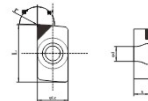
PCDInsert



Model	Size				
Iso	b	r	L	d	t
MRMN200	2	—	16	1.6	3.5
MRMN300	3	—	21	2.35	4.8
MRMN400	4	—	21	3.3	4.8
MRMN500	5	—	26	4.1	5.8
MRMN600	6	—	26	5.0	5.8



Model	Size				
Iso	L	Φi.c	S	Φd	r
RNMV090300	9.525	9.525	3.18	—	—
RNMV100300	10	10	3.18	—	—
RNMV120400	12.7	12.7	4.76	—	—

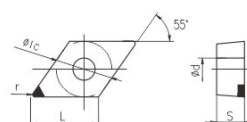
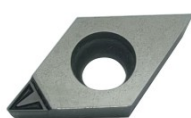


Model	Size				
Iso	L	Φi.c	S	Φd	r
APKT113504	11.39	6.2	3.5	3.2	0.4
APKT113508	11.39	6.2	3.5	3.2	0.8
APKT160404	17.35	9.28	4.76	4.5	0.4
APKT160408	17.35	9.28	4.76	4.5	0.8

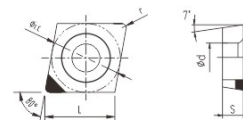
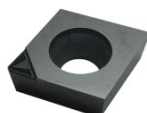
PCD Groove Insert



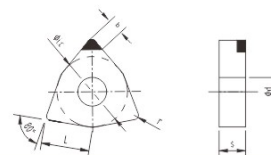
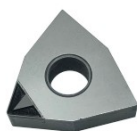
Model	Size			
Iso	L	S	BM	R
R4轮毂刀	30	8.15	5.6	4



Model	Size				
Iso	L	$\phi_{i.c}$	S	ϕ_d	r
DCGW11T304	11	9.525	3.97	4.4	0.4
DCGW11T308	11	9.525	3.97	4.4	0.8
DCGW11T312	11	9.525	3.97	4.4	1.2



Model	Size				
Iso	L	$\Phi_{i.c}$	S	Φ_d	r
CNGA120404	12	12.7	4.76	5.15	0.4
CNGA120408	12	12.7	4.76	5.15	0.8
CNGA120412	12	12.7	4.76	5.15	1.2



Model	Size				
Iso	L	$\phi_{i.c}$	S	ϕ_d	r
WNGA060408	6	9.525	4.76	3.81	0.8
WNGA060412	6	9.525	4.76	3.81	1.2
WNGA080408	8	12.7	4.76	5.16	0.8
WNGA080412	8	12.7	4.76	5.16	1.2