LEADTEC MATERIALS

Born for Excellence

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领科 LEADTEC

Company Profile

Henan Leadtec Materials Co., Ltd is located in the Airport Economy Zone, Zhengzhou City, Henan Province. It is a technology-based innovative enterprise specializing in the research, development, production, and sale of high-speed and high-efficiency diamond for cutting tool and cubic boron nitride superhard composite materials.

Leadtec relies on technological innovation, focuses on product research and development, and continuously enhances the competitiveness of its products;
Leadtec prioritizes product quality stability, continuously improves production process control methods, and introduces advanced testing equipment to ensure consistent product quality;
Leadtec is customer-oriented, with service capability as a guarantee, providing you with better materials, professional technical support, and more appropriate services.

Guided by the principles of pioneering innovation, outstanding quality, and integrity and self-improvement, Leadtec sincerely looks forward to cooperating with you!

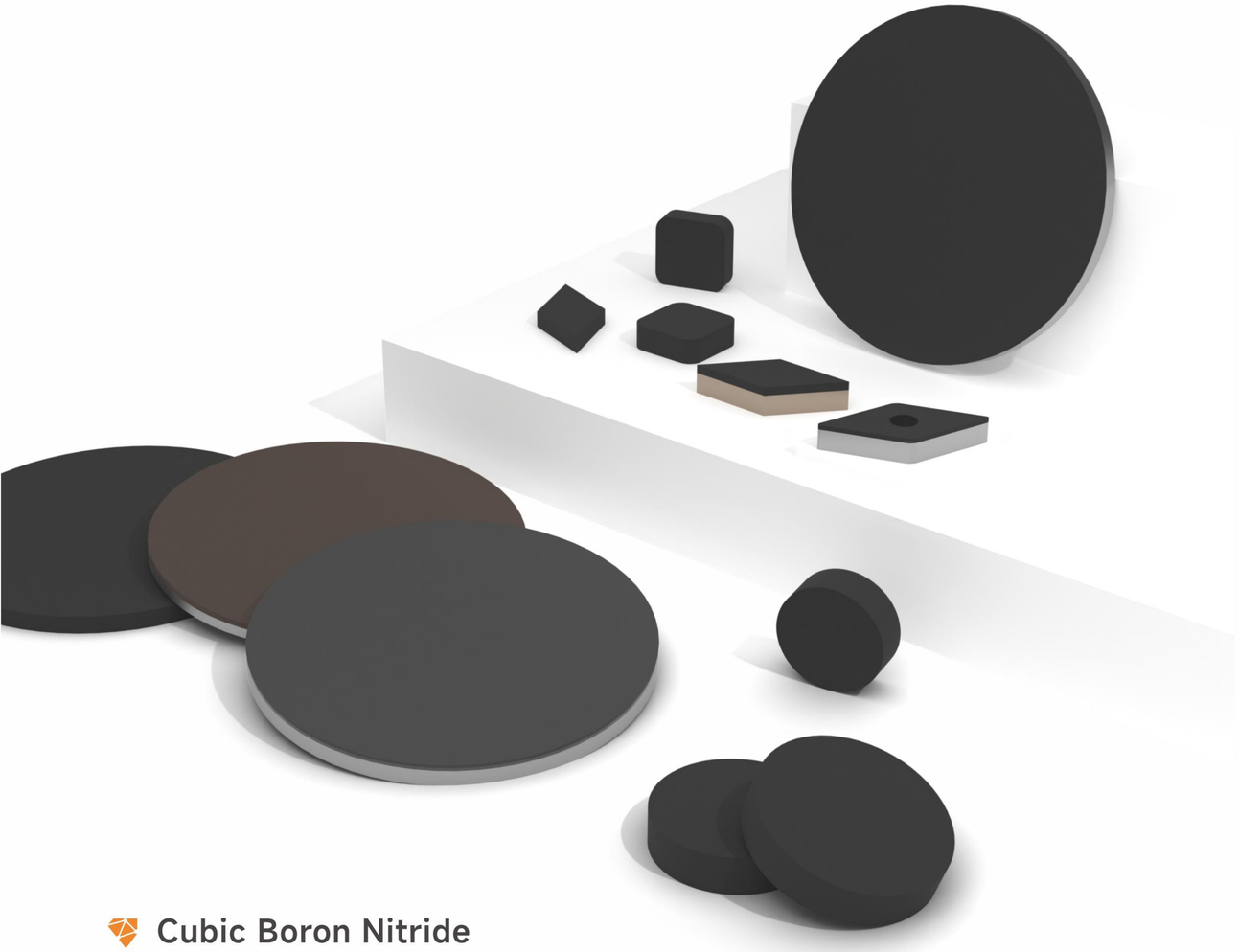
Based on technological innovation

Rooted in product quality

Customer-driven

PRODUCT INTRODUCTION

PCBN



Cubic Boron Nitride

Cubic boron nitride is synthesized from hexagonal boron nitride and a catalyst at high temperature and pressure. It possesses high hardness, thermal stability, and chemical inertness, as well as good infrared transparency and a relatively wide bandgap. Its hardness is second only to diamond, but its thermal stability is much higher than that of diamond, especially exhibiting significant chemical stability towards iron-based metal elements.

PCBN Grades and Characteristics

◓ Carbide Backed ■ Solid Form

Grade	Binder	Grain Size (μm)	Hardness HV (GPa)	Content (%)	Characteristics & Applications
◓ TC145 ■ TC145S	Ceramic	0.5	27-31		The resistance to crater wear of this product is the best among all products of our company. It also has the finest cBN grain size, providing sub-micron surface roughness, suitable for high-speed finish machining.
New ◓ KN450 ■ KN450S	Ceramic	1	27-31		Excellent crater wear resistance, providing sub-micron surface roughness, suitable for high-speed continuous cutting.
◓ KN10 ■ KN10S	Ceramic	3	27-31		Excellent crater wear resistance, suitable for high-speed finish machining.
New ◓ KN4510 ■ KN4510S	Ceramic	1	28-32		Excellent crater wear resistance, providing sub-micron surface roughness, suitable for high-speed continuous and lightly interrupted cutting.
New ◓ KN5211 ■ KN5211S	Ceramic	1	30-32		Excellent crater wear resistance, providing sub-micron surface roughness, suitable for high-speed continuous and lightly interrupted cutting.
New ◓ KN100 ■ KN100S	Ceramic	3	30-32		Combines excellent resistance to crater wear and mechanical wear, suitable for high-speed continuous cutting and lightly interrupted cutting.

PCBN Grades and Characteristics

Carbide Backed ■ Solid Form

Grade	Binder	Grain Size (μm)	Hardness HV (GPa)	Content (%)	Characteristics & Applications
TN260 TN260S	Ceramic	2	31-33		Suitable for continuous to lightly interrupted machining of hardened steel, achieving a good balance between crater wear and flank wear resistance.
TCN60 TCN60S	Ceramic	2	31-33		Suitable for continuous to lightly interrupted machining of most automotive steels, and also recommended for continuous finish machining of corrosive cast iron.
TC65 TC65S	Ceramic	2	32-34		Suitable for continuous to lightly interrupted machining of most automotive steels, and also recommended for finish machining of difficult-to-machine cast iron and powder metallurgy components.
KN5610 KN5610S	Ceramic	1	33-35		Excellent chipping resistance under high-speed cutting conditions, suitable for continuous to heavily interrupted machining of hardened steel.
New KN6020 KN6020S	Ceramic	3	32-35		Suitable for continuous to lightly interrupted machining of hardened steel, achieving an excellent balance between crater wear and flank wear resistance, with high versatility.
New KN6530 KN6530S	Ceramic	4	34-36		Excellent chipping resistance under high-speed cutting conditions, suitable for continuous to moderately interrupted machining of hardened steel.

PCBN Grades and Characteristics

Carbide Backed ■ Solid Form

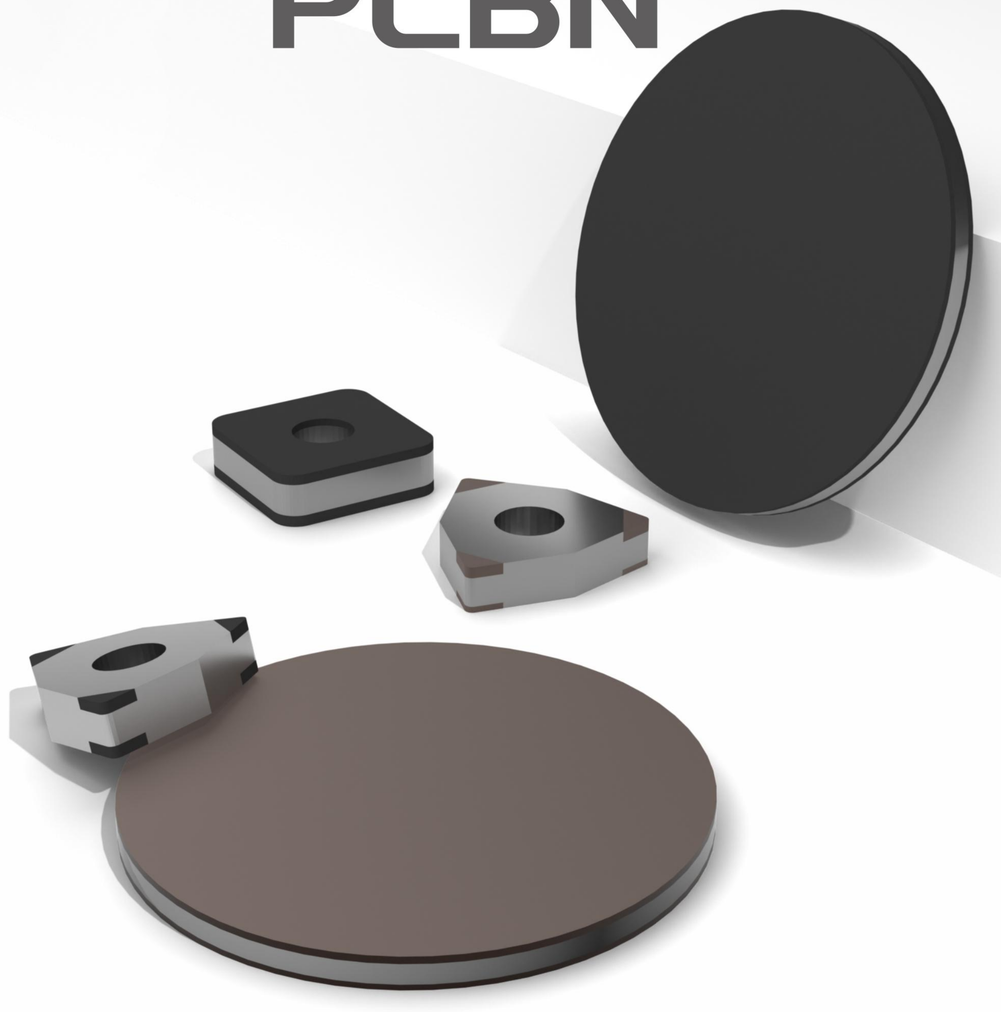
Grade	Binder	Grain Size (μm)	Hardness HV (GPa)	Content (%)	Characteristics & Applications
New KN7010 KN7010S	Ceramic	1	34-36		Excellent chipping resistance under high-speed cutting conditions, suitable for continuous to heavily interrupted machining of hardened steel.
TN470 TN470S	Ceramic	4	33-35		Excellent chipping resistance under high-speed cutting conditions, suitable for continuous to moderately interrupted machining of hardened steel.
TC80 TC80S	Ceramic	4	34-38		Excellent chipping resistance under high-speed cutting conditions, suitable for lightly to moderately interrupted machining of hardened steel, as well as continuous and interrupted machining of difficult-to-machine cast iron.
NL900	Ceramic	10	38-41		Used for turning and milling of gray cast iron and hard cast iron, as well as heavy turning of hardened steel; including components such as brake discs, pump bodies, impellers, and large rollers.
C90	Metal	2	39-41		Excellent strength and wear resistance, suitable for heavily interrupted machining of all hard and corrosive workpieces.
New KN6000	Metal	3	39-42		Excellent strength and mechanical wear resistance, suitable for heavily interrupted machining of all hard and corrosive workpieces.

PCBN Grades and Characteristics

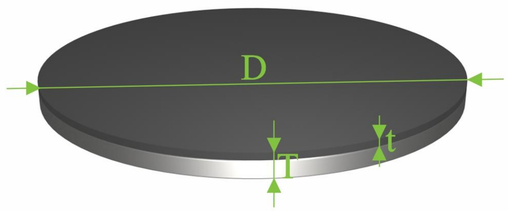
Carbide Backed ■ Solid Form

Grade	Binder	Grain Size (μm)	Hardness HV (GPa)	Content (%)	Characteristics & Applications
NM900	Metal	15	40-43		High wear resistance and outstanding impact resistance, suitable for rough machining and heavily interrupted machining of all hard workpieces.
KN8110	Metal	1	38-40		Ultra-fine grain and impact-resistant PCBN, suitable for heavily interrupted machining of all hard and corrosive workpieces.
New **KN8112**	Metal	1	38-41		Ultra-fine grain and impact-resistant PCBN, suitable for heavily interrupted machining of all hard and corrosive workpieces, and for applications requiring superior surface finish.
New **KN9000**	Metal	4	41-44		Excels in continuous and interrupted machining of gray cast iron and hard cast iron, milling of hardened steel, and machining of most valve seat alloys.
KN6330	Metal	3	41-44		Excels in continuous and interrupted machining of gray cast iron and hard cast iron, milling of hardened steel, and machining of most valve seat alloys. The preferred grade for most ferrous powder metallurgy.

“Double-sided” PCBN

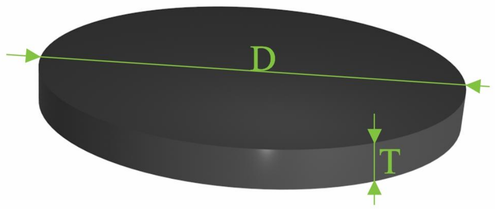


Carbide backed PCBN



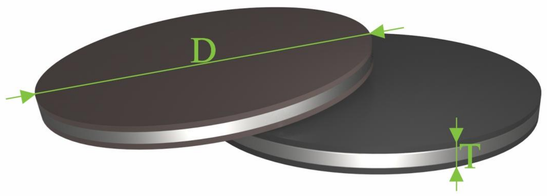
D: 52mm
t : 0.7-1.0mm
T: 1.6-4.9mm

Solid PCBN



D: 49mm
T: 1.0-6.5mm

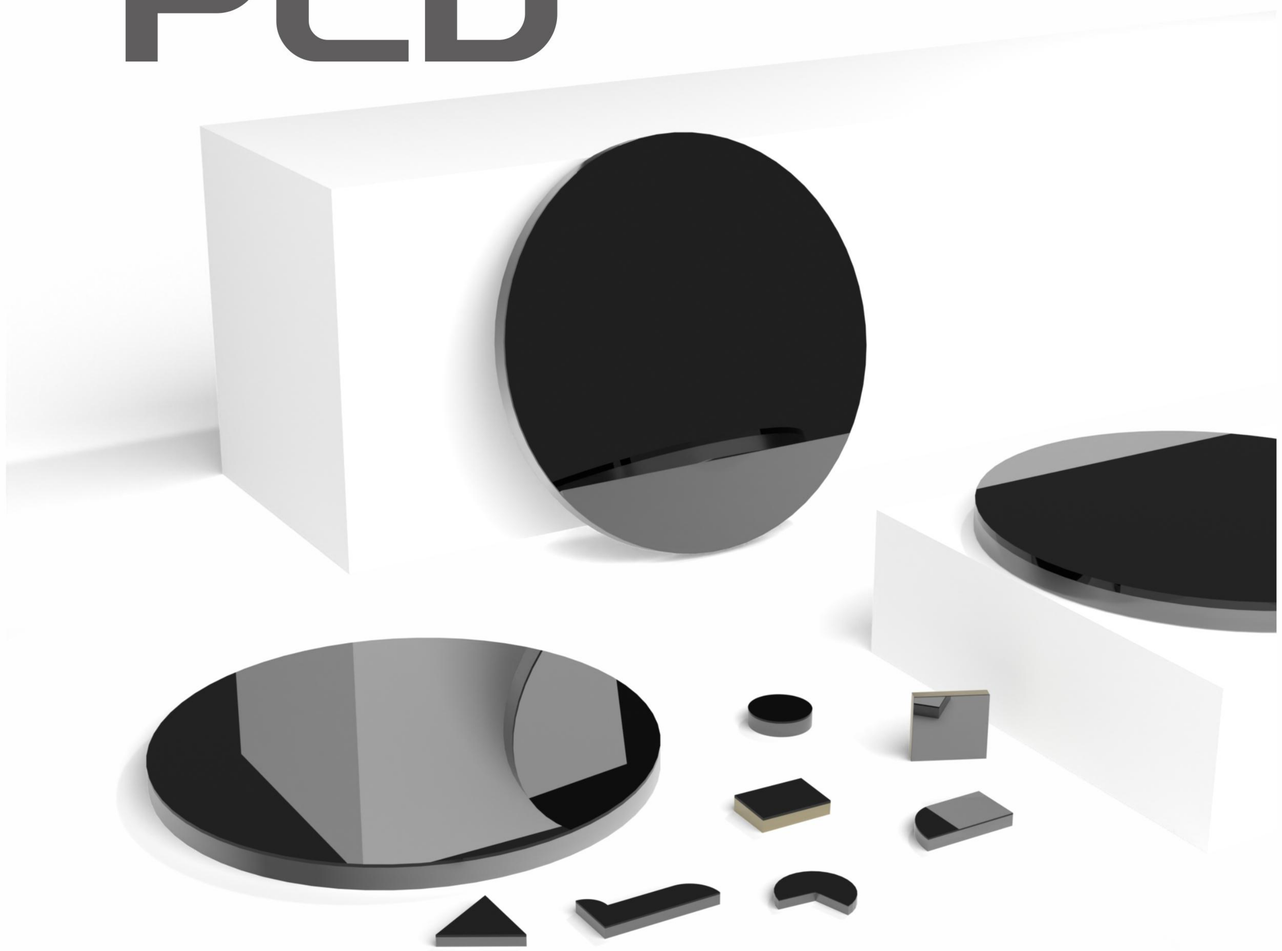
Double-sided PCBN



D: 52mm
T: 3.3/4.9mm

PRODUCT INTRODUCTION

PCD



Diamond

Diamond, also known as adamant, is the hardest naturally occurring substance in nature, with a microscopic hardness of 10000 kg/mm^2. Its chemical composition is carbon, which is an allotropic form of graphite. The structure of diamond is a face-centered cubic structure, in which each carbon atom is covalently bonded to four surrounding carbon atoms, forming a tetrahedral structure.

PCD Grades and Characteristics

Grade	Grain Size (μm)	Characteristics & Applications
LTM2200	1	**High Chipping Resistance and Surface Finish:** Suitable for applications requiring high chipping resistance and excellent surface finish, also applicable for machining titanium and composite materials.
LTM004	4	**Surface Finishing and Semi-Finishing:** Ideal for surface finishing and semi-finishing of materials such as aluminum, copper, composite wood panels, and plastics.
LTM10	10	**Excellent Overall Performance:** Suitable for simultaneous roughing and finishing with a single tool, recommended for machining low-silicon to medium-silicon aluminum alloys.
LTM10C	10	**Balanced Electrical Discharge Machinability and Tool Life:** Provides a good balance between electrical discharge machinability and tool life, making it more suitable for processing tool edges through electrical discharge machining.
LTM90	2~30	**Wide Application Range:** Primarily used in wind power, aerospace, automotive manufacturing, and woodworking industries.

PCD Product Range

Grade	PCD Layer (mm)	Overall Thickness (+/-0.05mm)						PCD Layer Thickness (mm)
		1.2	1.6	2.0	3.2	5.0	8.0	
LTM2200	0.3	√	√	√	√			0.20-0.45
	0.5	√	√	√	√			0.40-0.65
LTM004	0.3	√	√	√	√			0.20-0.45
	0.5	√	√	√	√			0.40-0.65
LTM10	0.3	√	√	√	√			0.20-0.45
	0.5	√	√	√	√	√		0.40-0.65
LTM10C	0.3	√	√	√	√			0.20-0.45
	0.5	√	√	√	√	√		0.40-0.65
LTM90	0.5	√	√	√	√	√	√	0.40-0.65

“Sandwich” PCD

Solid PCD