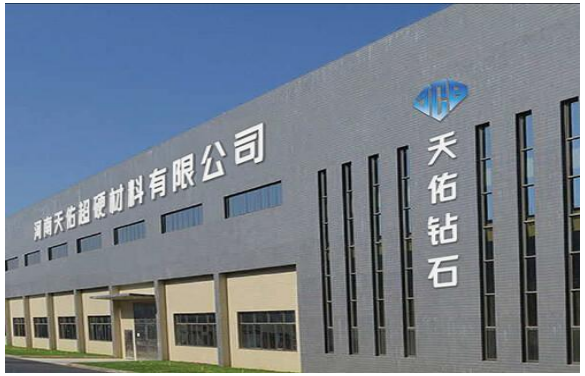
JCB Diamond

Company Profile



- Henan JCB Superhard Materials Co., Ltd. is a high-tech private enterprise specializing in the production of synthetic diamond, cubic boron nitride and and related products.
- The company boasts strong technical capabilities, comprehensive testing methods, and unique production technologies.
- Committed to the research and development of superhard materials, it holds numerous independent intellectual property rights and has evolved into an integrated entity encompassing scientific research, production, and sales.
- The company's primary offerings include monocrystalline diamonds, polycrystalline diamonds, cubic boron nitride (CBN), various types of micro-powder, PCD (polycrystalline diamond), PDC (polycrystalline diamond compact), TSP (thermally stable polycrystalline), CVD (chemical vapor deposition), PCBN (polycrystalline cubic boron nitride), among other super-hard materials and products.

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Henan JCB Superhard Material Co., Ltd

JCB Diamond

Production Equipment

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Testing Equipment

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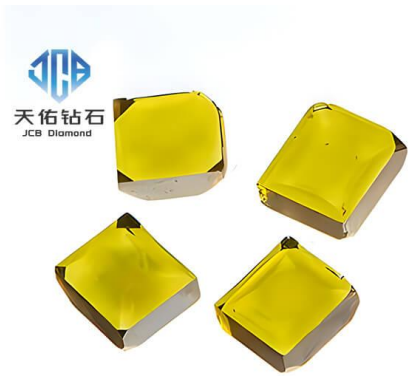
Henan JCB Superhard Material Co., Ltd

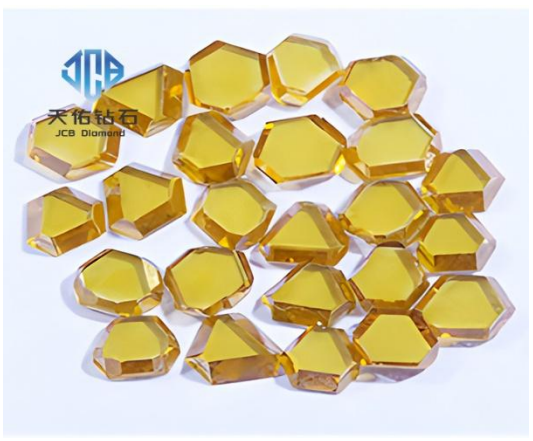
Product Categories

JCB Diamond

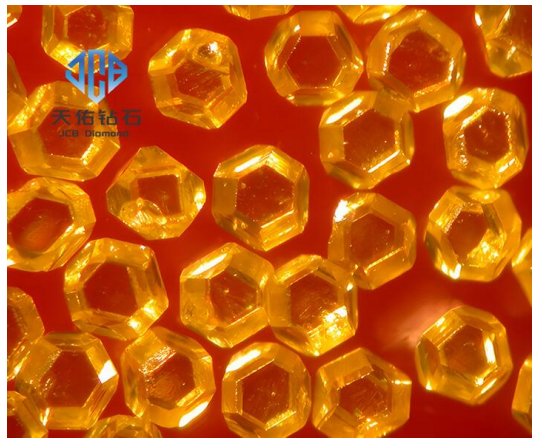
Large Single Crystal Diamond



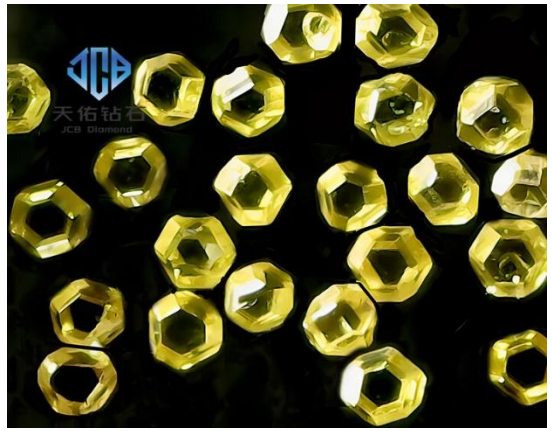
Single Crystal Diamond Plates



MCD For Wire Drawing Die

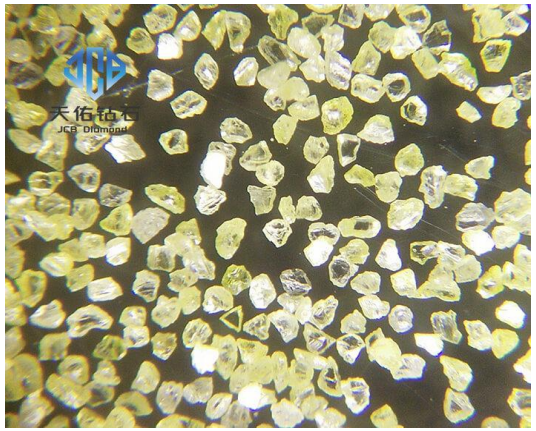


Saw Grade Diamond

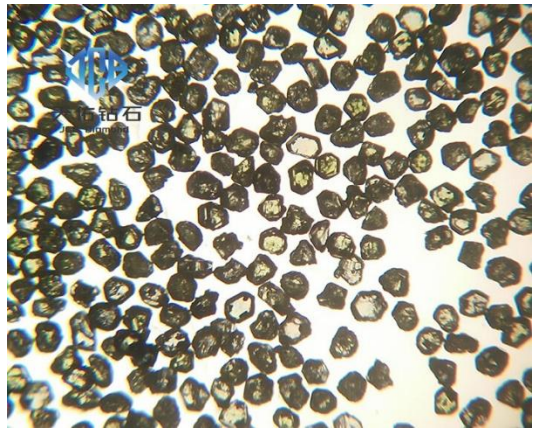


Grinding Grade Diamond

Resin Bond Diamond



Crushed Diamond Powder



Reshaped Diamond Powder

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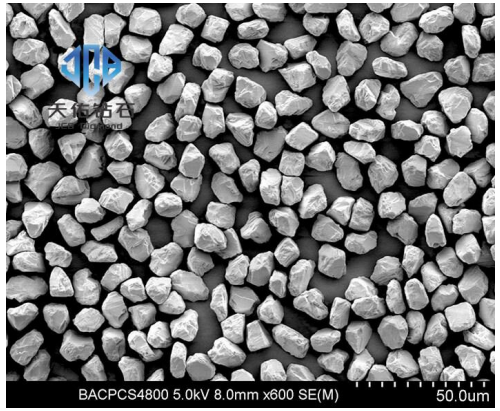
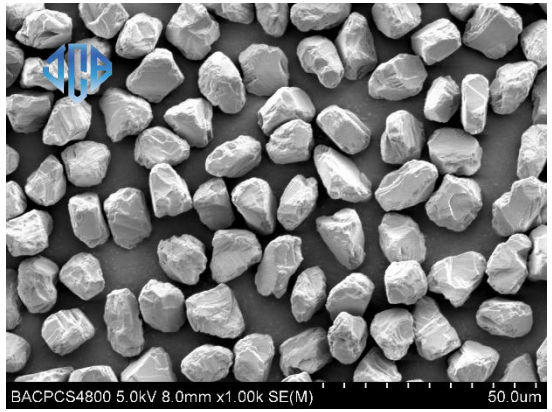
JCB Diamond

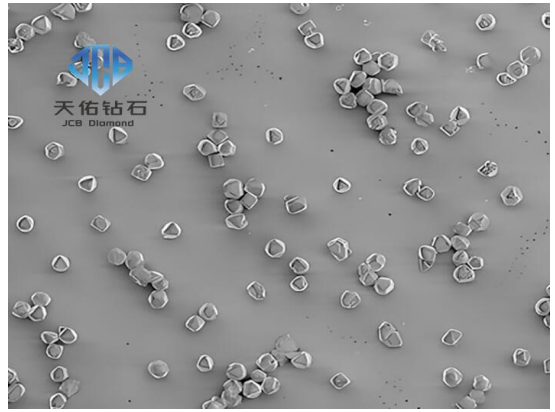
Polycrystalline Diamond Abrasives



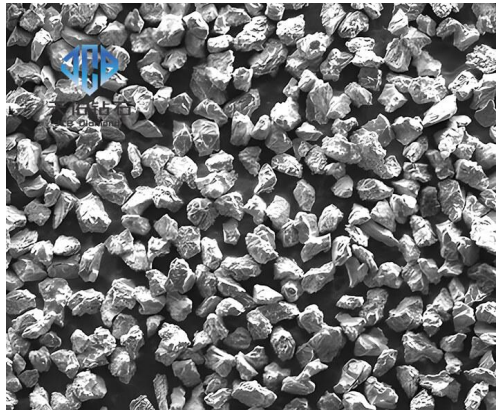
General Diamond Micron Powder



Special Diamond Micron Powder

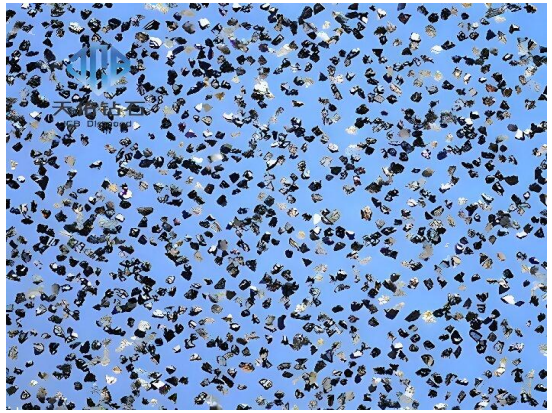


As-grown Micron Diamond

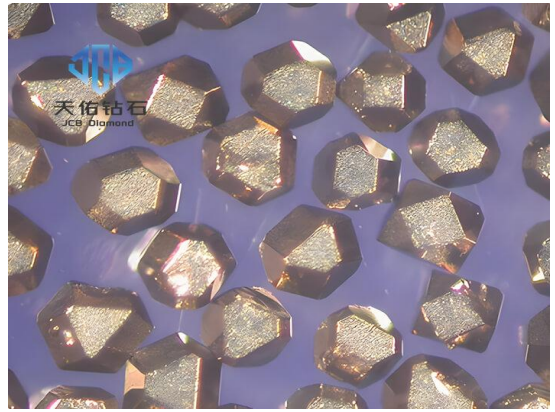


Polycrystalline Diamond Power

CBN



CBN Micron Powder



Coated Diamond & CBN

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JCB Diamond

Product Catalog

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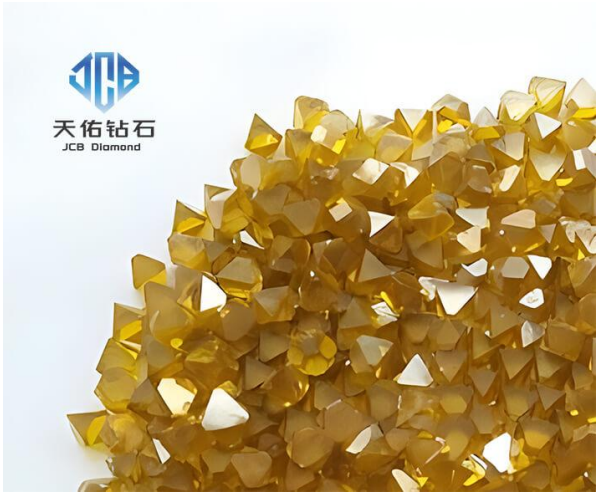
JCB Diamond

Large Single Crystal Diamond JLD Series



- JCB JLD series of Large single crystal diamond refer to diamonds with a diameter greater than 1.0mm, generated under rigorous high temperature and high pressure conditions.
- The product has a hexoctahedral crystal structure, high purity, good transparency, and consistent orientation.
- It possesses high static pressure strength, impact toughness, thermal stability, and wear resistance.
- The JCB JLD series of large grain single crystal diamonds are widely used in the manufacturing of single crystal dressing pens, diamond rollers, grinding wheel dressing tools,
- gem processing tools, precious metal processing tools, optical material processing tools, and single crystal drawing dies, among other precision machining tools.
- They are extensively applied in high-tech fields such as aerospace, optical materials, jewelry processing, watches, instruments manufacturing, optical fiber cables, and infrared technology.

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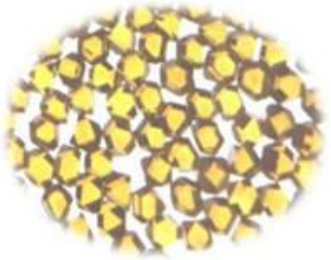
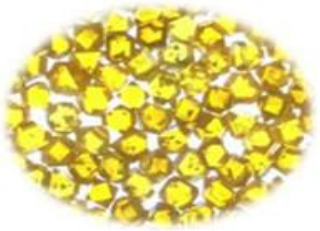
Product Specifications And Grades

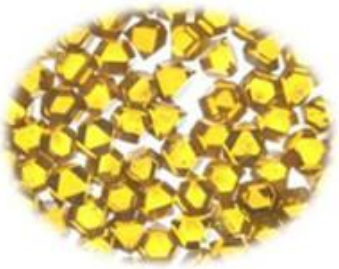
JCB Diamond



JLD91/90
Features: Regular crystal shape, complete hexahedral or octahedral structure, almost free from impurities.
Purpose: Mainly used for producing diamond single crystal wire drawing dies.

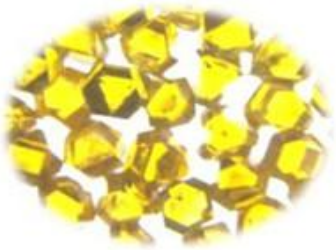


JLD40
Features: Regular crystal shape, hexahedral or octahedral structure, higher impurity content compared to JLD60.
Purpose: Mainly used for producing diamond single crystal dressing tools and diamond rollers.



JLD80
Features: Regular crystal shape, complete hexahedral or octahedral structure, few impurities.
Purpose: Mainly used for producing diamond single crystal cutting tools and diamond single crystal dressing tools.

JLD20
Features: Relatively regular crystal shape, higher impurity content compared to JLD40.
Purpose: Mainly used for producing diamond rollers and diamond coarse grinding tools.



JLD60
Features: Regular crystal shape, almost complete hexahedral or octahedral structure, few impurities.
Purpose: Mainly used for producing diamond single crystal cutting tools and diamond single crystal dressing tools.

JLD10
Features: Irregular crystal shape, higher impurity content compared to JLD20.
Purpose: Mainly used for producing diamond coarse grinding tools.

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Grade, particle size, MM	JLD10	JLD20	JLD40	JLD60	JLD80	JLD90	JLD91
1.0(18/20)	Y	Y	Y	Y	Y	Y	
1.2(16/18)	Y	Y	Y	Y	Y	Y	
1.4(14/16)	Y	Y	Y	Y	Y	Y	Y
1.6(12/14)	Y	Y	Y	Y	Y	Y	Y
1.8(10/12)	Y	Y	Y	Y	Y	Y	Y
2.0	Y	Y	Y	Y	Y	Y	Y
2.2	Y	Y	Y	Y	Y	Y	Y
2.4	Y	Y	Y	Y	Y	Y	Y
2.6	Y	Y	Y	Y	Y	Y	Y
2.8	Y	Y	Y	Y	Y	Y	Y
3.0	Y	Y	Y	Y	Y	Y	Y
3.2	Y	Y	Y	Y	Y	Y	Y
3.4	Y	Y	Y	Y	Y	Y	Y
3.6	Y	Y	Y	Y	Y	Y	Y
3.8	Y	Y	Y	Y	Y	Y	Y
4.0	Y	Y	Y	Y	Y	Y	Y
4.2	Y	Y	Y	Y	Y	Y	Y
4.5	Y	Y	Y	Y	Y	Y	Y
5.0	Y	Y	Y	Y	Y	Y	Y
6.0	Y	Y	Y	Y	Y	Y	Y

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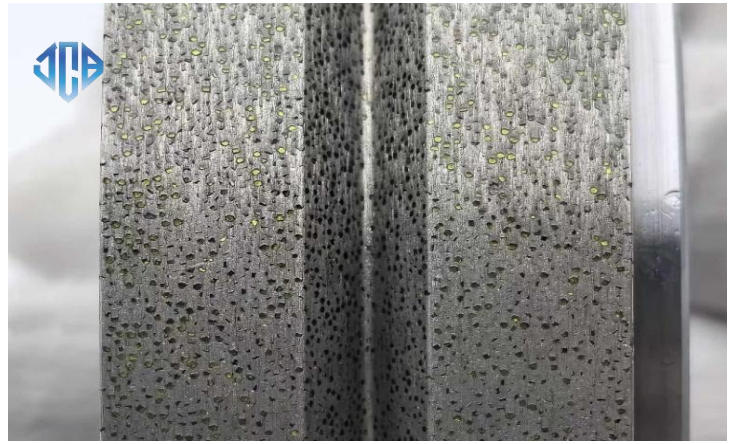
JCB Diamond

Application



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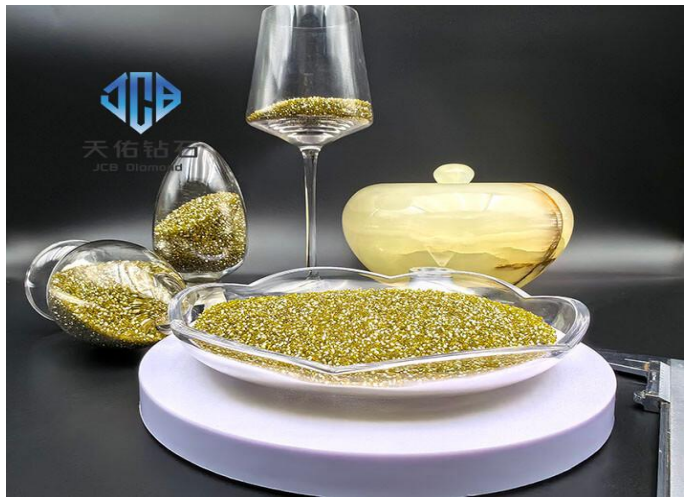
JCB Diamond

Product Photo



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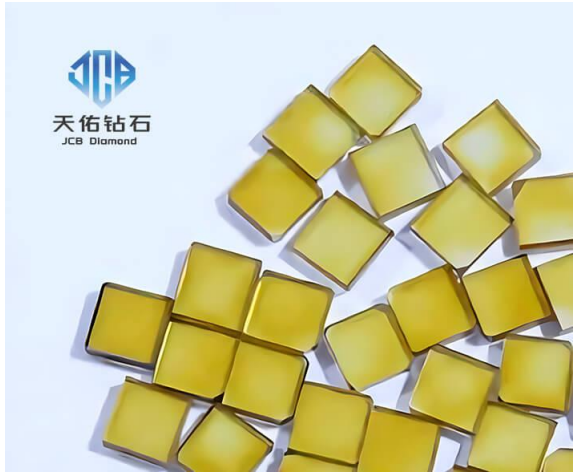
JCB Diamond

Single Crystal Diamond Plates JLDP Series



Main Characteristics:

- JCB JLDP series single crystal diamond plates feature high hardness, excellent wear resistance, good impact toughness, high thermal conductivity, high optical clarity,
- low friction coefficient with non-ferrous metals, good anti-adhesive properties,
- as well as excellent thermal and chemical stability. They can be ground to extremely sharp cutting edges, making them the ideal material for ultra-precision cutting tool applications. As a cutting tool material, their performance far exceeds that of cemented carbide, diamond composite sheets, and other cutting tool materials,
- comparable to natural diamond cutting tool materials, making them the new favorite in the tool material industry.

Application Fields:

- JCB JLDP series single crystal diamond plates are ideal materials for precision machining in industries such as automobiles,
- machine tools, bearings, tools, and hydraulics.
- They are also used in high-tech fields such as aerospace, optical materials, jewelry processing, locks, instruments manufacturing, optical fiber cables, and infrared.

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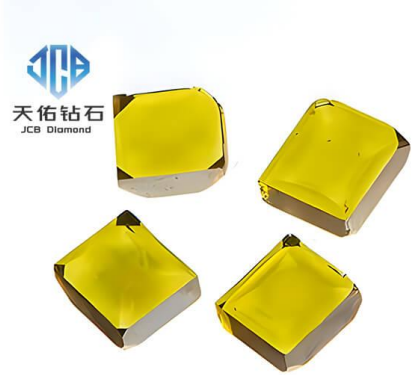
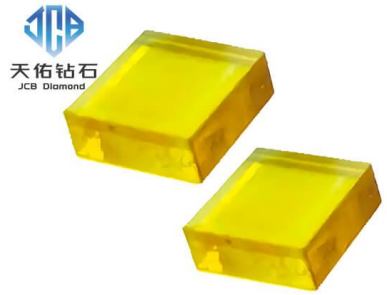
JCB Diamond





Main Uses:

1. Metal processing: grinding of cast iron discs;

2. Machining of non-ferrous metals such as gold, silver, aluminum, aluminum alloys, copper, etc.;

3. Cutting tools for non-ferrous and non-metal materials: optical materials, ceramics, various fibers and particle-reinforced composite materials, plastics, rubber, graphite, glass, and various wear-resistant woods (solid wood, plywood, MDF, etc.);

4. Grinding wheel dressing pens;

5. Wear-resistant parts;

6. Various special tools and grinding tools such as: forming tools, grinding wheel tools, turning tools, turning flower tools, diamond pens, carving tools, batch flower tools, angle tools, elastic tools, fine-point tools, four-corner tools, etc.;

7. Single crystal wire drawing dies;

8. Cutting flat glass (such as mobile phone screens, etc.);

Depending on the crystal orientation, dimensions, thickness, purity, quantity of right angles, and application scope, our company can provide square, rectangular, circular, and triangular specifications.

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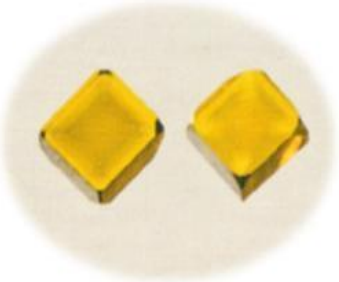
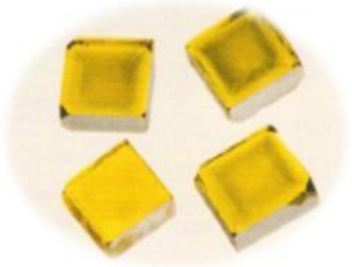
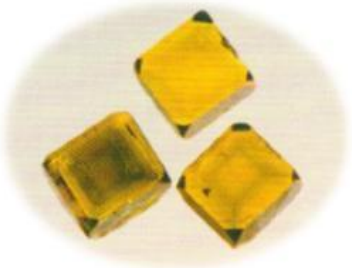
Product Specifications And Grades



JLDP-A: No inclusions observed under a microscope.



JLDP-B: Microscopic traces of inclusions observed.



JLDP-C: Small amount of inclusions observed under light.

Brand, specification, MM	JLDP-A1	JLDP-A2	JLDP-B1	JLDP-B2	JLDP-C1	JLDP-C2
2.5*2.5*1.0	Y	Y	Y	Y	Y	Y
3.0*3.0*1.0	Y	Y	Y	Y	Y	Y
3.5*3.5*1.0	Y	Y	Y	Y	Y	Y
4.0*4.0*1.0	Y	Y	Y	Y	Y	Y
4.5*4.5*1.0	Y	Y	Y	Y	Y	Y
5.0*5.0*1.0	Y	Y	Y	Y	Y	Y
5.5*5.5*1.0	Y	Y	Y	Y	Y	Y
6.0*6.0*1.0	Y	Y	Y	Y	Y	Y
6.5*6.5*1.0	Y	Y	Y	Y	Y	Y
7.0*7.0*1.0	Y	Y	Y	Y	Y	Y

We can also produce according to customer requirements.

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Application

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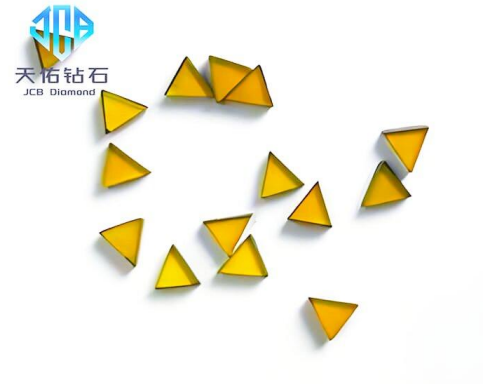
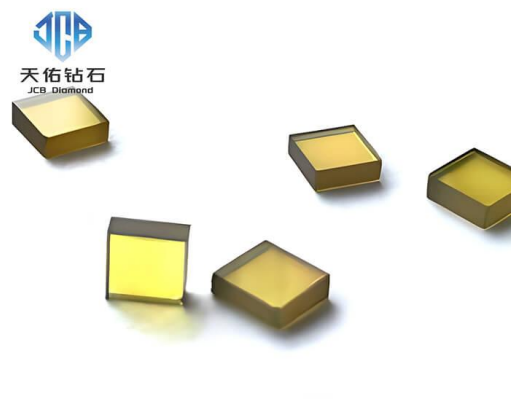
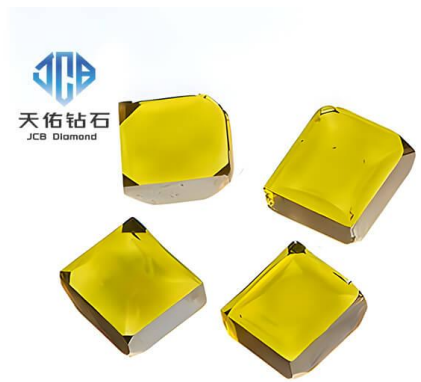
Product Photo







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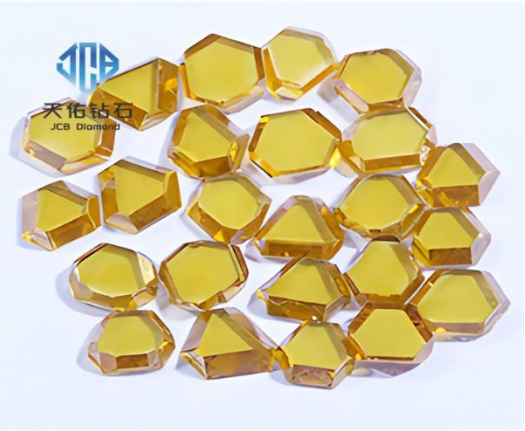
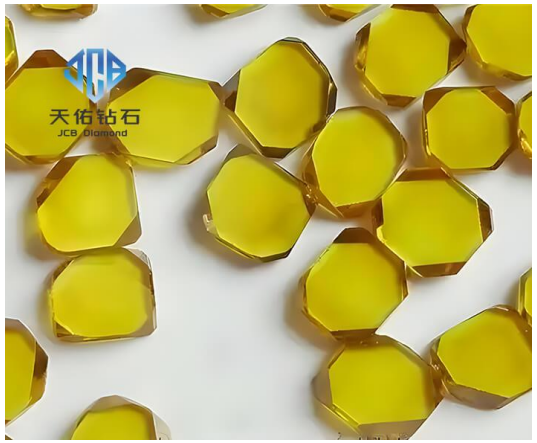
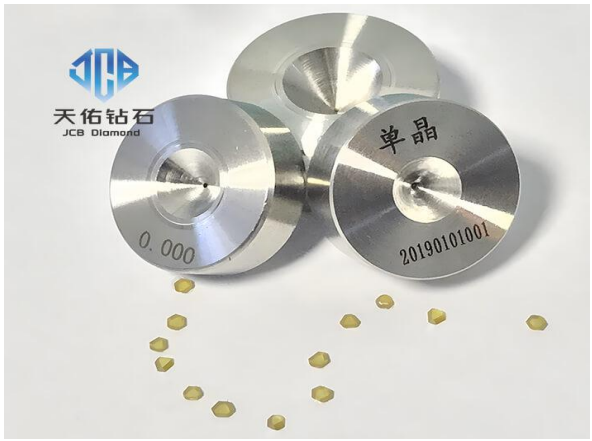
MCD For Wire Drawing Die

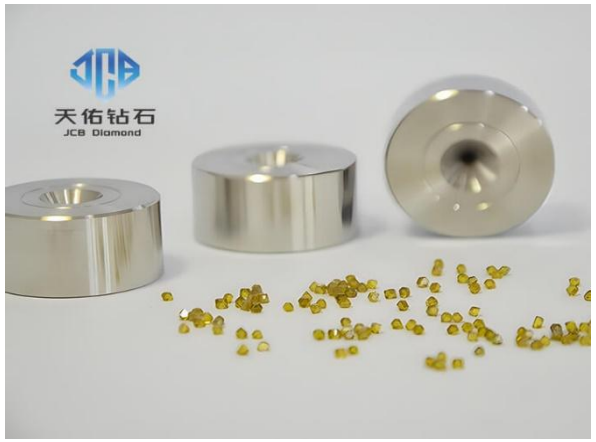
JCB Diamond





- JCB MCD series single crystal diamond wire drawing die cores are characterized by high hardness and excellent wear resistance.
- Our company utilizes 111-oriented synthetic single crystal diamond as the core material, ensuring precise positioning and stable performance of the dies produced.
- The wires drawn using these dies exhibit high surface smoothness, making them suitable for applications requiring high surface quality and small diameter wire drawing.
- They are primarily used for drawing tungsten wires, semiconductor bonding wires (gold, copper, and aluminum wires), medical wires, stainless steel wires, copper wires, cutting wires, special alloy wires,
- precious metal wires, and various other colored or non-colored metal wires.





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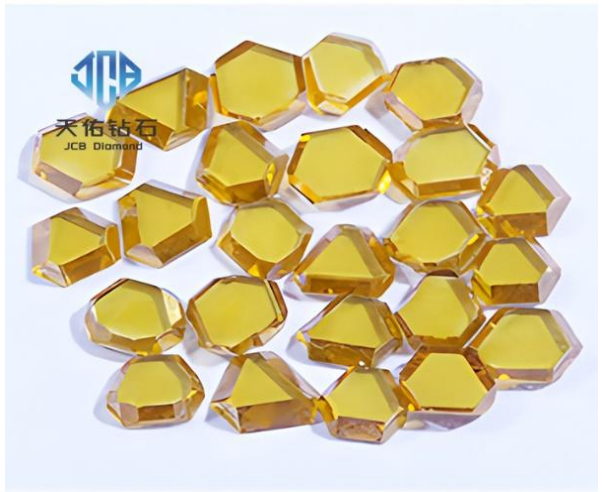

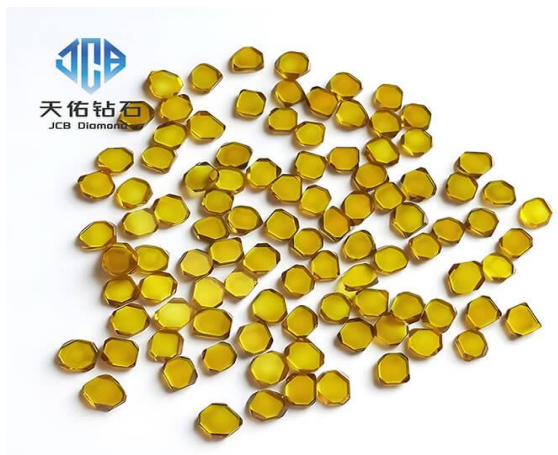

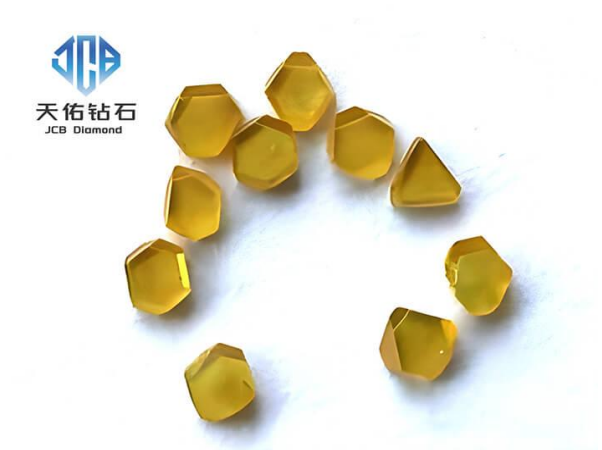

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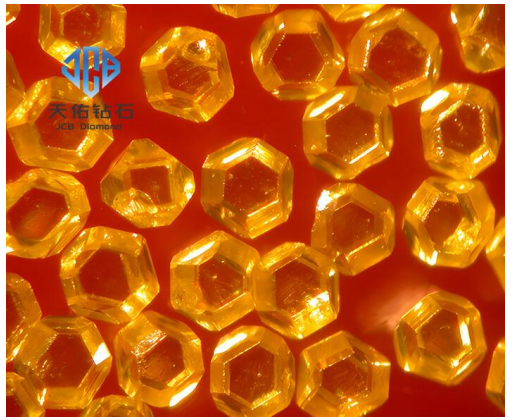
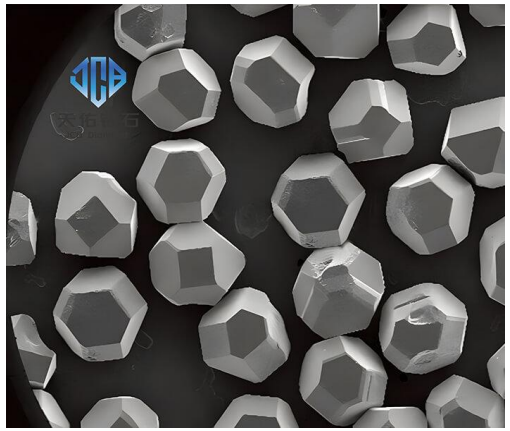
Saw Grade Diamond





- JCB JSD series of synthetic single crystal diamond coarse grains refer to diamonds with a grain size ranging from 20/25 to 50/60.
- These products are characterized by their golden-yellow crystal structure, complete crystal formation in a six-eight octahedral structure,
- low impurity content, good transparency, and outstanding static strength, impact toughness, and thermal stability.
- JCB JSD series of diamonds are primarily used in the manufacturing of diamond saw blades, diamond wire saws, thin-wall diamond drills, diamond grinding blocks, diamond wheels, geological drilling tools, and brazing tools, among others.
- They find wide applications in industries such as stone processing, cutting of reinforced concrete, construction of roads and bridges, glass processing, oil and gas drilling, and mechanical machining.

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JCB Diamond

Product Specifications And Grades

JSD90
Features: The crystal form is complete and regular hexahedron, with almost no impurities in the crystal, extremely high static strength (Newtons), impact toughness (TI), and thermal stability (TTI). The comprehensive performance reaches the level of international equivalent products, with excellent wear resistance.
Applications: Suitable for cutting tools, drilling tools, and brazing tools under extremely high working strength conditions; such as cutting and drilling high-strength reinforced concrete, asphalt pavement, and extremely hard granite (F=20), as well as high-performance geological engineering drill bits.

JSD70
Features: The crystal form is relatively complete, hexahedron, with few impurities inside the crystal, and has higher static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with good wear resistance.
Applications: Suitable for cutting tools, drilling tools, brazing tools, and electroplating tools under higher working strength conditions; such as cutting and drilling concrete, hard granite (F=10), high-grade ceramic tiles, and high-hardness refractory materials, as well as heavy-duty grinding tools and medium to high-load electroplating brazing tools.

JSD80
Features: The crystal form is complete and regular hexahedron, with very few impurities inside the crystal, and has very high static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with good wear resistance.
Applications: Suitable for cutting tools, drilling tools, brazing tools, and electroplating tools under high working strength conditions; such as cutting and drilling reinforced concrete, high-hardness granite (F=15), and high-hardness ceramic materials, as well as engineering drill bits.

JSD60
Features: The crystal form is relatively complete, hexahedron, with relatively few impurities inside the crystal, and has medium static strength (Newtons), impact toughness (TI), and thermal stability (TTI), balancing wear resistance and sharpness.
Applications: Suitable for high-speed cutting and drilling under moderate working strength conditions, such as cutting and drilling non-reinforced cement pavement, hard marble, and low-hardness granite (F=8), large quantities of building materials, refractory materials, and non-ferrous metal materials, as well as heavier grinding tools and medium-load electroplating brazing tools.

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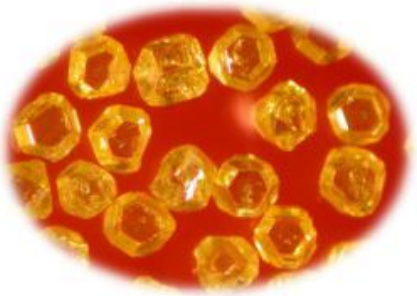
JSD40
Features: The crystal form is 90-95% regular, with moderate impurity content inside the crystal, and has lower static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with moderate wear resistance and good sharpness.
Applications: Suitable for high-speed cutting and drilling under low working strength conditions, such as small diameter free cutting and drilling tools; as well as medium to low-load grinding tools and low-load electroplating tools.

JSD50
Features: The crystal form is relatively regular, hexahedron, with moderate impurity content inside the crystal, and has general static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with moderate wear resistance and good sharpness.
Applications: Suitable for high-speed cutting and drilling under medium to low working strength conditions, such as cutting and drilling soft marble and sandstone (F=6-5), glass, ceramics, and batch building materials, as well as medium-load grinding tools and low-load electroplating tools.



JSD30
Features: The crystal form is 85% regular, with more impurities inside than JSD40, and has lower static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with poor wear resistance and very good sharpness.
Applications: Suitable for good sharpness small diameter free cutting tools and drilling tools, such as gems, jade, crystals, and small batches of stone, glass, and tiles cutting and drilling; as well as medium to low-load grinding tools and low-load electroplating tools.

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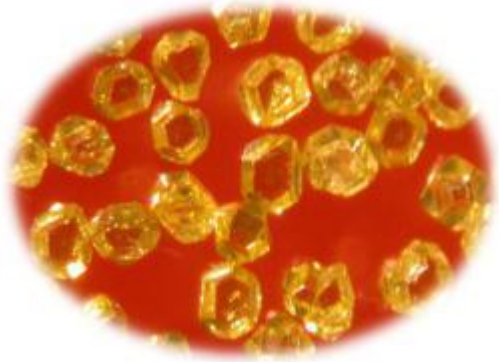
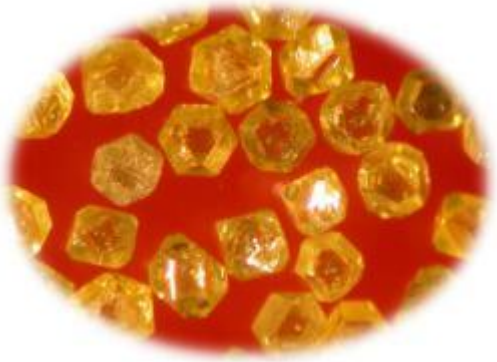


JSD20
Features: The crystal form is 70% regular, with more impurities inside, rough surface, low static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with poor wear resistance and excellent sharpness.
Applications: Suitable for good sharpness small diameter free cutting tools and drilling tools, medium to high-load ceramic bonding tools, low-load metal bonding grinding tools, and high sharpness electroplating tools; used for processing hard alloys, magnetic materials, glass, tiles, crystals, gemstones, and other brittle materials; can also be used with high-grade diamonds to adjust tool sharpness.



JSD10
Features: The crystal form is 50% regular, with more impurities inside, rough surface, very low static strength (Newtons), impact toughness (TI), and thermal stability (TTI), with poor wear resistance, excellent sharpness, and good self-sharpness.
Applications: Suitable for medium to high-load resin bonding tools, medium to low-load

Grade Particle Size	JSD10	JSD20	JSD30	JSD40	JSD50	JSD60	JSD70	JSD80	JSD90
20/25	Y	Y	Y	Y	Y	Y	Y	Y	Y
25/30	Y	Y	Y	Y	Y	Y	Y	Y	Y
30/35	Y	Y	Y	Y	Y	Y	Y	Y	Y
35/40	Y	Y	Y	Y	Y	Y	Y	Y	Y
40/45	Y	Y	Y	Y	Y	Y	Y	Y	Y
45/50	Y	Y	Y	Y	Y	Y	Y	Y	Y
50/60	Y	Y	Y	Y	Y	Y	Y	Y	Y

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Particle Size Conversion Table

JCB GB/T6406-1995	USA ANSI US Mesh #	European Community FEPA D	International Standards ISO	Russia GOST9206-80
20/25	20/25	D851	850/710	850/710
25/30	25/30	D711	710/600	710/600
30/35	30/35	D601	600/500	630/500
35/40	35/40	D501	500/425	500/400
40/45	40/45	D426	425/355	400/315
45/50	45/50	D356	355/300	400/315
50/60	50/60	D301	300/250	315/250

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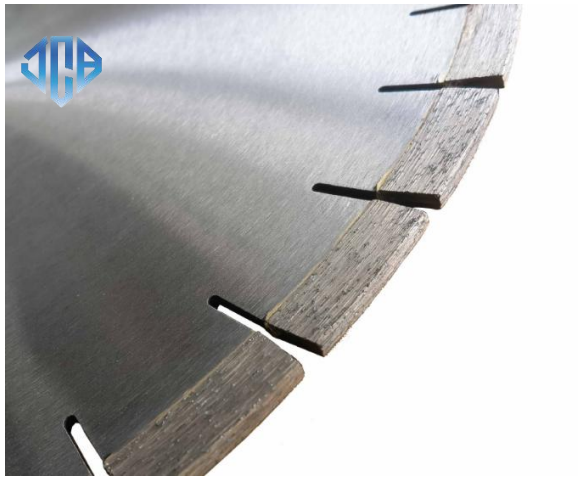
Application



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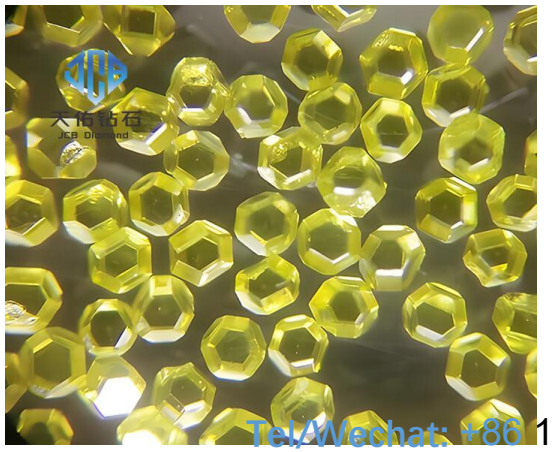
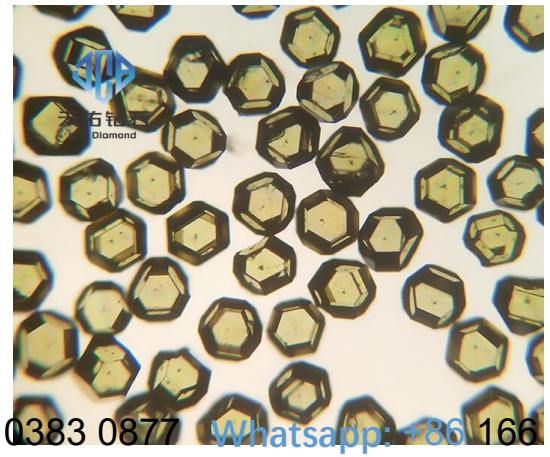
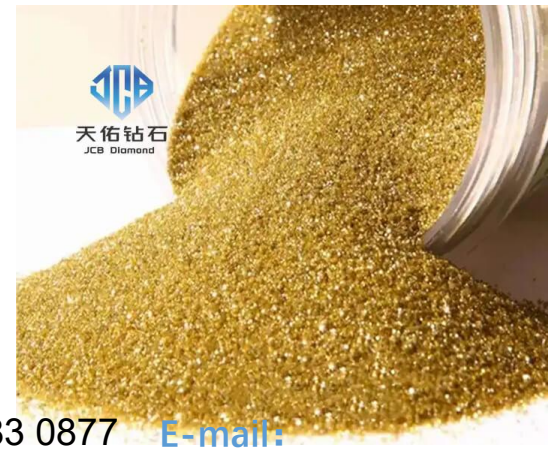
Product Photo







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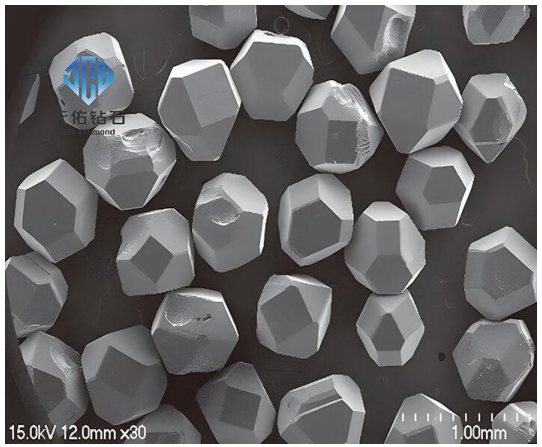
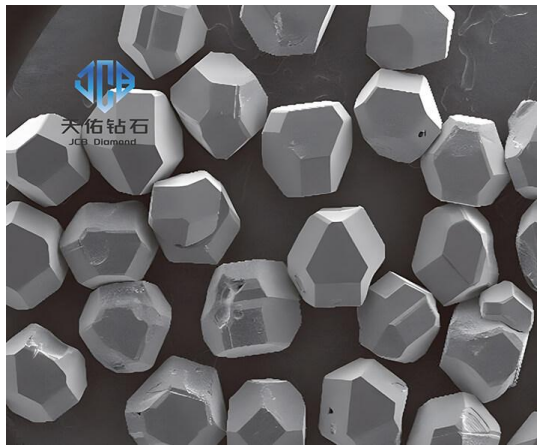
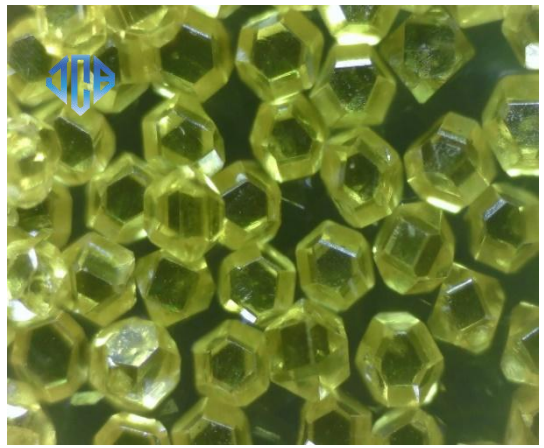
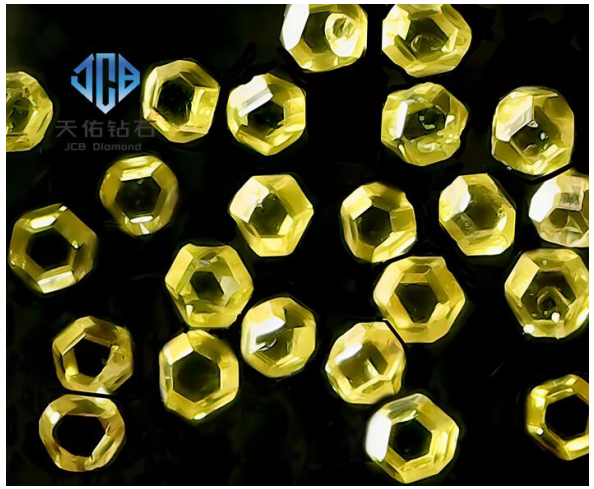


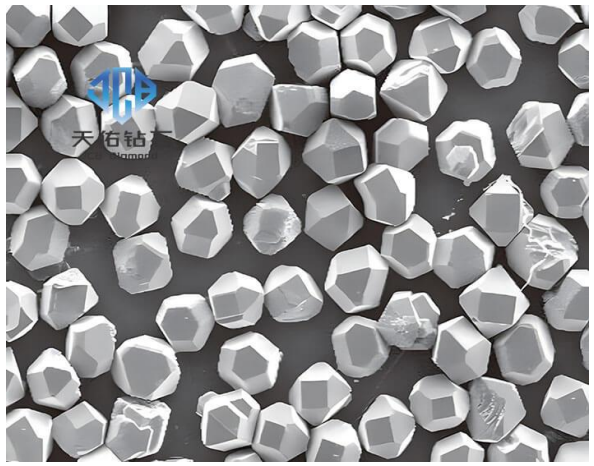




JCB Diamond

Grinding Grade Diamond





- Our JMD series of synthetic single crystal diamonds refer to fine and ultrafine diamonds with particle sizes ranging from 60/70 to 800/1000.
- These products are characterized by golden-yellow crystals with complete hexagonal or octahedral structures, low impurity content, good transparency, and outstanding static strength, impact toughness, and thermal stability.
- They are suitable for use in metal binders, electroplating binders, ceramic binders, and resin binders. Mainly used in the manufacture of cutting tools, drilling tools, and grinding and polishing tools for precision machining.
- They can achieve high-speed cutting, improve the smoothness, flatness, and dimensional accuracy of the cutting surface, significantly reduce material loss, and reduce the amount of post-surface polishing.
- Widely used in the processing of optical glass, precision ceramics, semiconductor materials, magnetic materials, sapphire, polycrystalline silicon, single crystal silicon, and various gemstones.
- Among them, ultrafine diamond can also be used as raw material for high-grade PDC composite sheets.
- Compared with traditional micropowders, the six-eight faceted fine diamond can maximize the packing density of the powder, increase the diamond content per unit volume in PDC, improve the bonding of diamond particles in PDC,
- and ultimately synthesize PDC with greatly improved wear resistance, impact resistance, and heat resistance compared to traditional micropowders.

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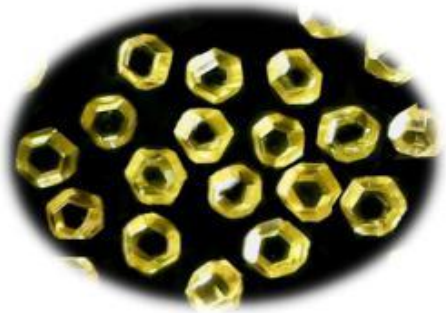
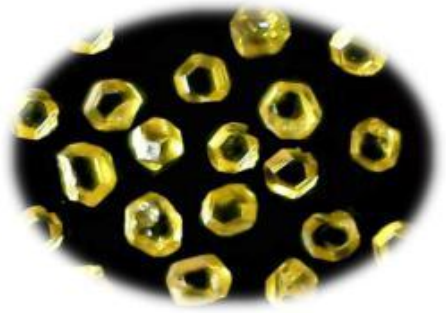
Product Specifications And Grades

Metal bond	Vitrified bond	Resin bond	Electroplating bond



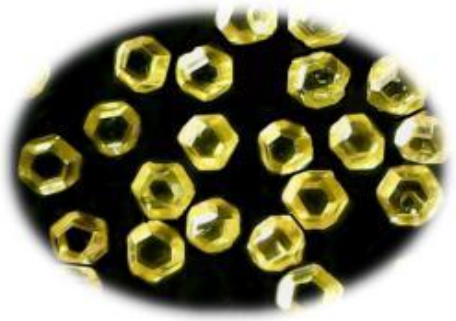
JMD100

Features: Primarily characterized by complete hexahedral or octahedral and equiaxed shapes, extremely regular crystal structure, minimal impurities such as enclosed bodies and bubbles inside the diamond, precise particle size, yellow color, excellent transparency, and extremely high impact toughness and thermal stability.
Applications: Used for manufacturing diamond cutting blades, saw blades, and suitable for processing hard alloy tools, composite superhard material tools, and superhard ceramics among other difficult-to-machine materials.



JMD80

Features: Mainly characterized by complete hexahedral or octahedral and equiaxed shapes, regular crystal structure, few impurities such as enclosed bodies and bubbles inside the diamond, precise particle size, yellow color, excellent transparency, and very high impact toughness and thermal stability.
Applications: Suitable for processing rubies, sapphires, optical glass, automotive glass, monocrystalline and polycrystalline silicon, engineering ceramics, magnetic materials, and other non-metallic materials.



JMD60

Features: Mainly characterized by hexahedral or octahedral and equiaxed shapes, with over 95% complete crystal forms, relatively low impurities such as enclosed bodies and bubbles inside the diamond, precise particle size, yellow color, good transparency, and high impact toughness and thermal stability.
Applications: Suitable for processing rubies, sapphires, optical glass, automotive glass, monocrystalline and polycrystalline silicon, engineering ceramics, magnetic materials, and other non-metallic materials.

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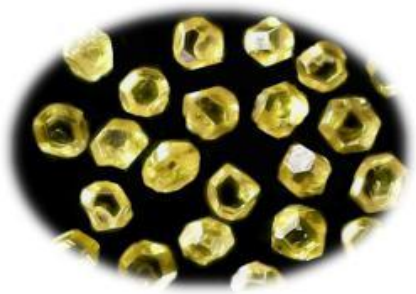
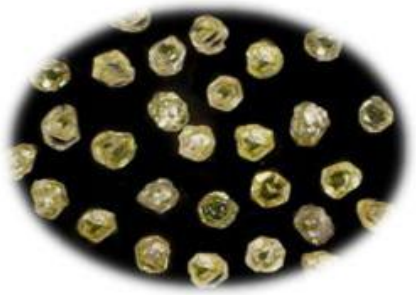


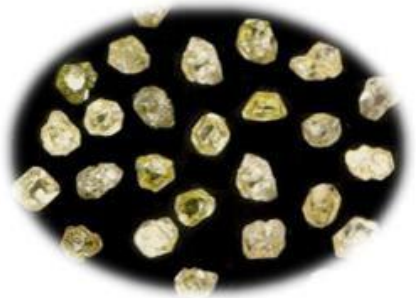
JMD40

Features: Mainly characterized by hexahedral or octahedral and equiaxed shapes, with approximately 90% complete crystal forms, moderate impurities such as enclosed bodies and bubbles inside the diamond, precise particle size, yellow color, some transparency, and relatively high impact toughness and thermal stability.
Applications: Suitable for processing rubies, sapphires, optical glass, monocrystalline and polycrystalline silicon, carbides, plastics, and other non-metallic brittle materials.



JMD20

Features: Approximately 70% complete crystal forms, relatively high impurities, moderate impact toughness and thermal stability.
Applications: Low-load grinding and cutting of glass, low-load edge rounding of quartz and carbides, semi-precision processing of flat glass, chamfering of dental materials, grinding of glass furniture and mirrors, etc.



JMD10

Features: Irregular and sharp crystal forms, high impurity content, excellent brittleness, good self-sharpening, and incomplete crystal forms contribute to better particle retention.
Applications: Suitable for resin and ceramic bond tools with higher requirements for service life, and for electroplated bond tools with lower requirements, processing steel, hard alloys, and magnetic materials, polishing ceramic blocks and stones, inlaying jewelry, dental materials for burr polishing, rubber cutting blades, etc.

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JCB Diamond

Grade, particle size	JMD10	JMD20	JMD40	JMD60	JMD80	JMD100
60/70	Y	Y	Y	Y	Y	Y
70/80	Y	Y	Y	Y	Y	Y
80/100	Y	Y	Y	Y	Y	Y
100/120	Y	Y	Y	Y	Y	Y
120/140	Y	Y	Y	Y	Y	Y
140/170	Y	Y	Y	Y	Y	Y
170/200	Y	Y	Y	Y	Y	Y
200/230	Y	Y	Y	Y	Y	Y
230/270	Y	Y	Y	Y	Y	Y
270/325	Y	Y	Y	Y	Y	Y
325/400	Y	Y	Y	Y	Y	Y
400/500	Y	Y	Y	Y	Y	Y
500/600	Y	Y	Y	Y	Y	Y
600/800	Y	Y	Y	Y	Y	Y
800/1000	Y	Y	Y	Y	Y	Y

Particle Size Comparison Table

JCB GB/T6406-1995	USA ANSI US Mesh #	European Community FEPA D	International Standards ISO	Russia GOST9206-80
60/70	60/70	D251	250/212	250/200
70/80	70/80	D213	212/180	
80/100	80/100	D181	180/150	200/160
100/120	100/120	D151	150/125	160/125
120/140	120/140	D126	125/106	125/100
140/170	140/170	D107	106/90	100/80
170/200	170/200	D91	90/75	
200/230	200/230	D76	75/63	80/63
230/270	230/270	D64	63/53	63/50
270/325	270/325	D54	53/45	50/40
325/400	325/400	D46	45/38	45/38
400/500	400/500	D39	38/32	38/30
500/600	500/600	D33	32/26	30/20
600/800	600/800	D20	25/15	25/15
800/1000	800/1000	D15	22/12	22/12

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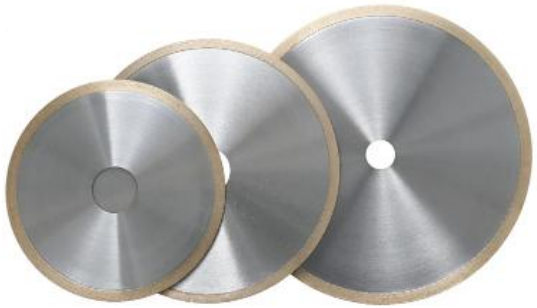
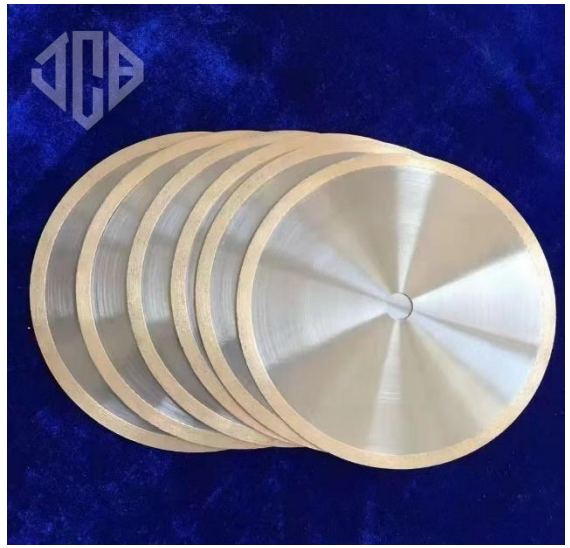
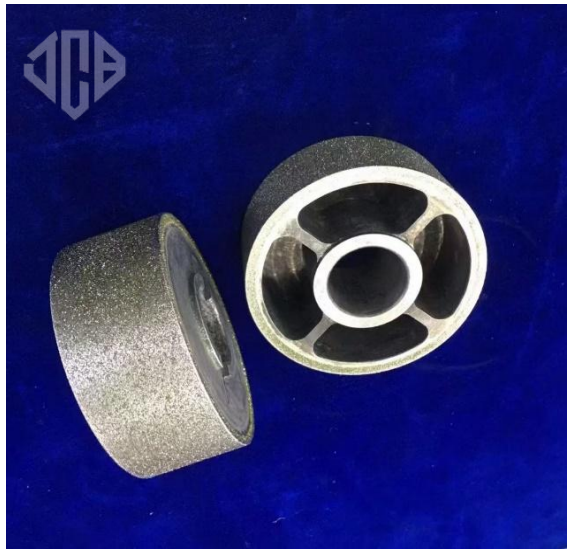
Application







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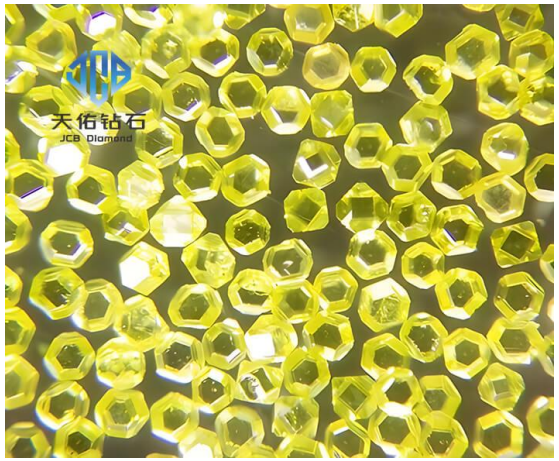
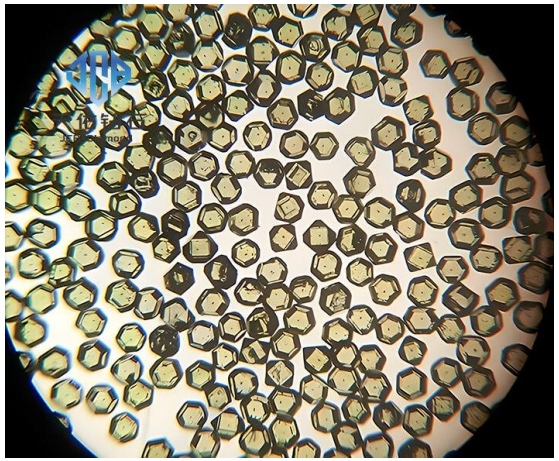
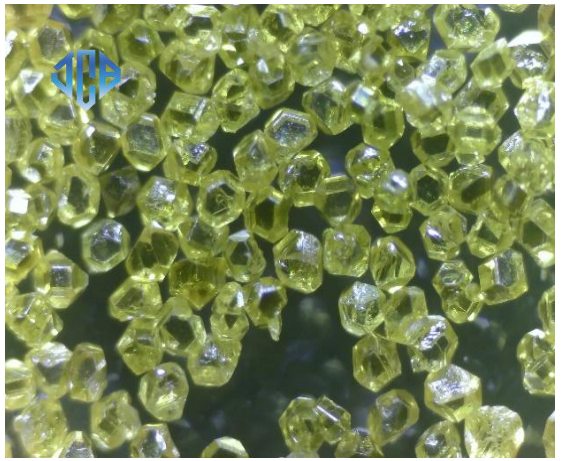
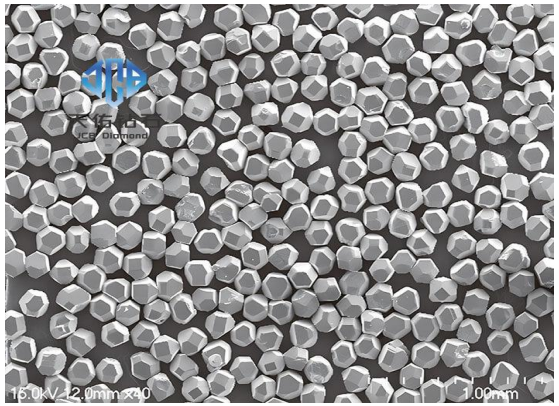
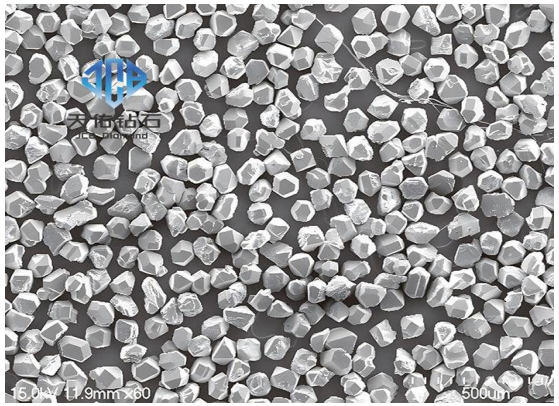
Product Photo

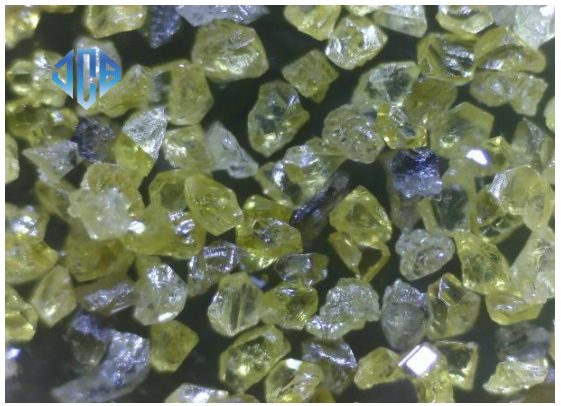












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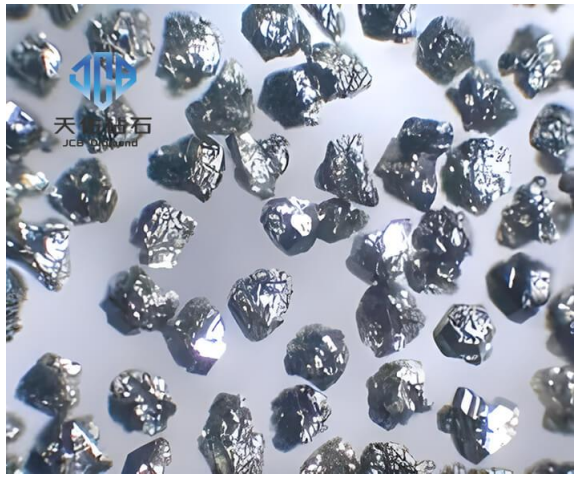
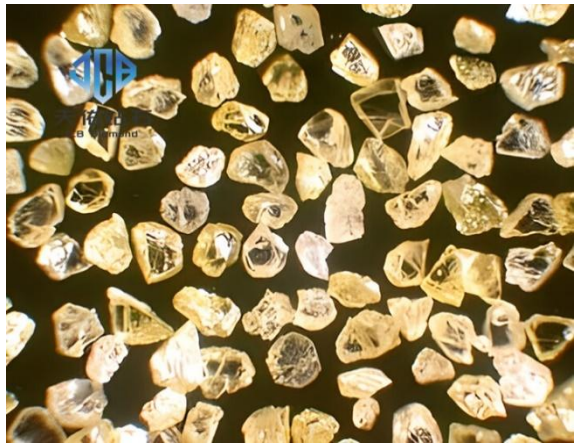
Resin Bond Diamond





- JCB JBD series resin-bonded synthetic diamond, a form of polycrystalline diamond, is widely utilized in the manufacturing of resin-bonded diamond grinding wheels.
- Composed of multiple nested subcrystalline structures, the Tianyou JBD series polycrystalline diamond exhibits irregular crystal morphology, a rough surface, exceptional fragility, and superb self-sharpening characteristics.
- Its distinguished features, including high grinding efficiency, prolonged service life, and excellent finish quality, make it an optimal choice for machining a variety of non-ferrous materials such as tungsten carbide hard alloys, silicon nitride,
- aluminum oxide, silicon carbide, optical glass, common glass, and ceramics, offering superior performance in these applications.

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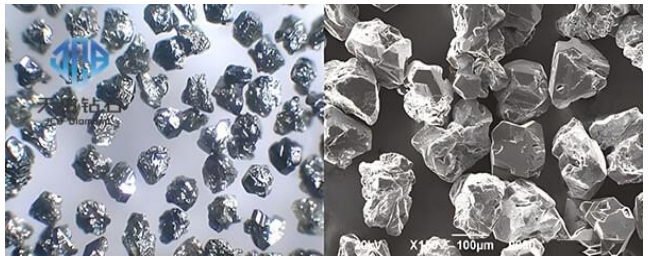
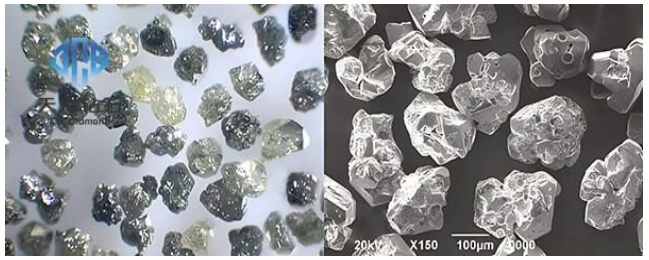
Product Specifications And Grades

JCB Diamond



JBD4(AC4)
Characteristics: It is the most brittle and least strong polycrystal among resin-bonded diamonds, with a dark gray color, excellent self-sharpening properties. Its micro-fracturing capability enables outstanding grinding performance under low load grinding.
Applications: Suitable for low load resin-bonded grinding tools, used in precision machining of cemented carbides, optical glass, and ultra-high-quality fine grinding applications.



JBD6(AC6)
Characteristics: It is a polycrystal with medium brittleness and strength in resin-bonded diamonds, grayish-green in color, with good self-sharpening properties, offering a balanced choice between grinding effectiveness and tool life.
Applications: Applicable to medium load resin-bonded grinding tools for rough and semi-finish machining of cemented carbides, optical glass, and other highly brittle non-metallic materials.

JRD
Characteristics: It is the strongest irregular single crystal in resin-bonded diamonds, yellowish-green in color, with a rough and sharp surface.
Applications: Suited for heavy load resin-bonded grinding tools, used in processing gemstones, stone, ceramic tiles, glass, and rough machining of cemented carbides, etc. An economical resin diamond offering high grinding efficiency.

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Grade, particle size	50/60	60/70	70/80	80/100	100/120	120/140	140/170
JBD4(AC4)	Y	Y	Y	Y	Y	Y	Y
JBD6(AC6)	Y	Y	Y	Y	Y	Y	Y
JRD	Y	Y	Y	Y	Y	Y	Y
Grade, particle size	170/200	200/230	230/270	270/325	325/400	400/500	500/600
JBD4(AC4)	Y	Y	Y	Y	Y	Y	Y
JBD6(AC6)	Y	Y	Y	Y	Y	Y	Y
JRD	Y	Y	Y	Y	Y	Y	Y

Grain Size Comparison Chart

JCB GB/T6406-1995	USA ANSI US Mesh #	European Community FEPA D	International Standards ISO	Russia GOST9206-80
50/60	50/60	D301	300/250	315/250
60/70	60/70	D251	250/212	250/200
70/80	70/80	D213	212/180	
80/100	80/100	D181	180/150	200/160
100/120	100/120	D151	150/125	160/125
120/140	120/140	D126	125/106	125/100
140/170	140/170	D107	106/90	100/80
170/200	170/200	D91	90/75	
200/230	200/230	D76	75/63	80/63
230/270	230/270	D64	63/53	63/50
270/325	270/325	D54	53/45	50/40
325/400	325/400	D46	45/38	45/38
400/500	400/500	D39	38/32	38/30
500/600	500/600	D33	32/26	30/20

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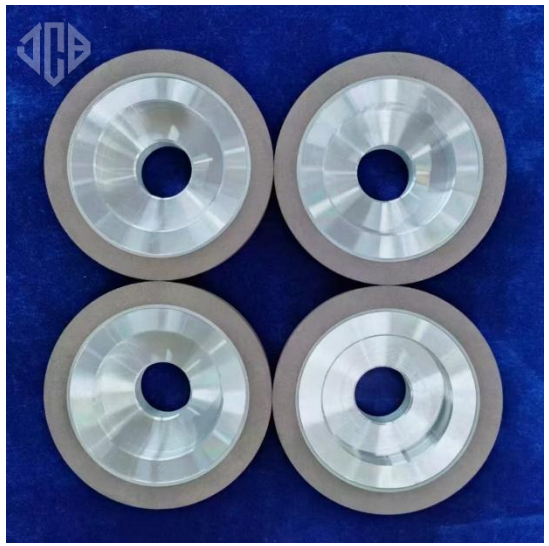
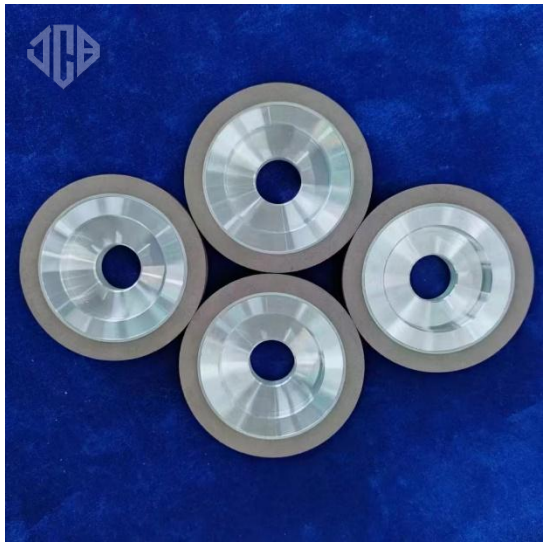
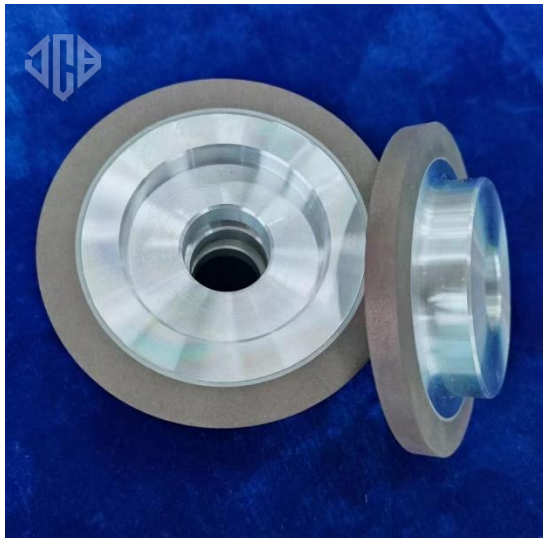
Application







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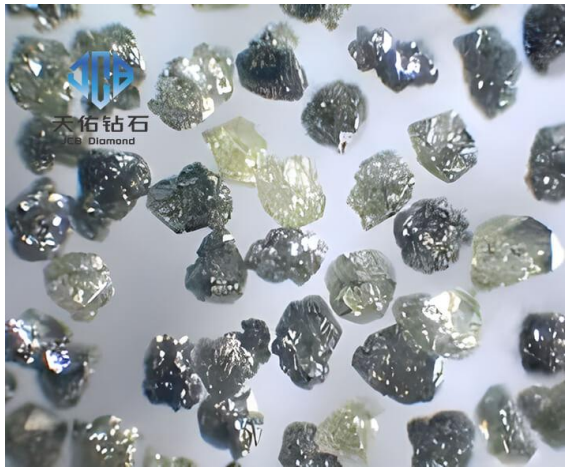
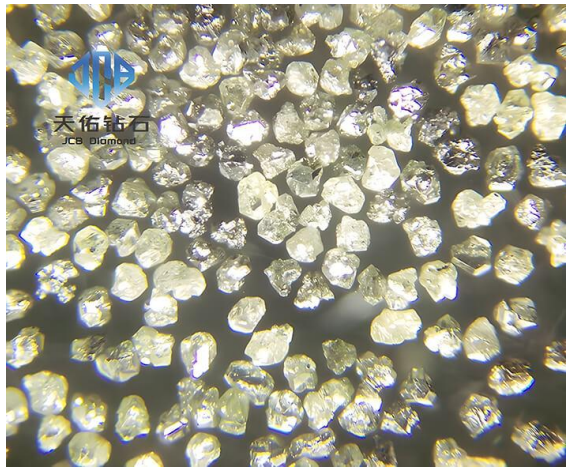
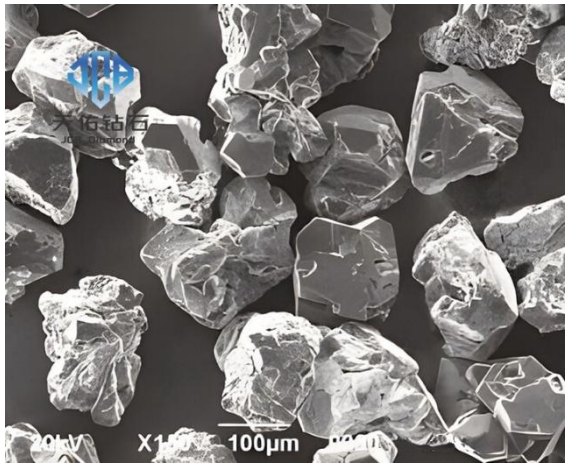
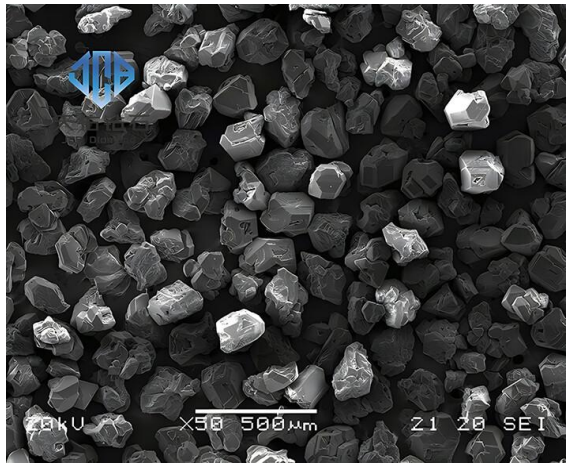
Product Photo









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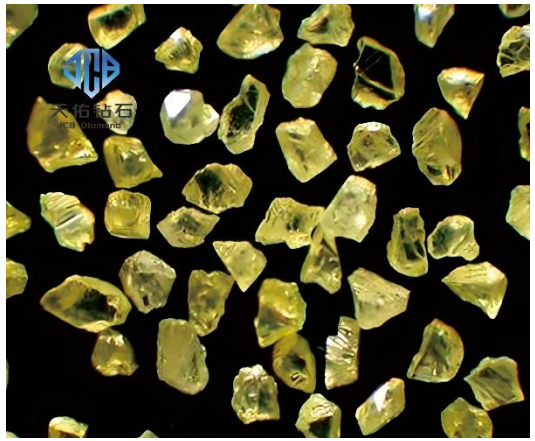
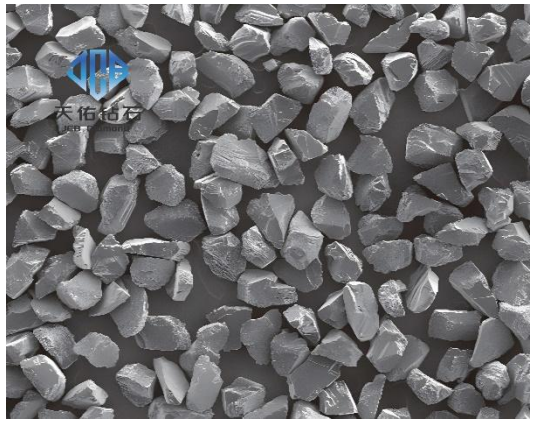
Crushed Diamond Powder JCD Series





- JCB JCD Series Diamond Crushed Material is produced using JCB JSD Series coarse-grained single crystal synthetic diamonds as raw materials,
- undergoing processes such as crushing, purification, shaping, and sieving to create super-hard grinding and polishing materials.
- This product features irregular crystal shapes, low impurity content, a rough and sharp surface.
- The JCD Series Diamond Crushed Material from JCB is primarily used in the manufacture of diamond grinding wheels, diamond abrasive wheels,
- diamond segments, and other diamond cutting and grinding tools with resin, ceramic, or metal bonding agents.
- Compared to primary single crystal fine powders, it offers both economic advantages and superior grinding properties.

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Grain Size Conversion Chart

Grade, particle size	50/60	60/70	70/80	80/100	100/120	120/140	140/170
JCD-A	Y	Y	Y	Y	Y	Y	Y
JCD-B	Y	Y	Y	Y	Y	Y	Y
JCD-C	Y	Y	Y	Y	Y	Y	Y
JRD	Y	Y	Y	Y	Y	Y	Y
Grade, particle size	170/200	200/230	230/270	270/325	325/400	400/500	500/600
JCD-A	Y	Y	Y	Y	Y	Y	Y
JCD-B	Y	Y	Y	Y	Y	Y	Y
JCD-C	Y	Y	Y	Y	Y	Y	Y
JRD	Y	Y	Y	Y	Y	Y	Y

JCB GB/T6406-1995	USA ANSI US Mesh #	European Community FEPA D	International Standards ISO	Russia GOST9206-80
50/60	50/60	D301	300/250	315/250
60/70	60/70	D251	250/212	250/200
70/80	70/80	D213	212/180	
80/100	80/100	D181	180/150	200/160
100/120	100/120	D151	150/125	160/125
120/140	120/140	D126	125/106	125/100
140/170	140/170	D107	106/90	100/80
170/200	170/200	D91	90/75	
200/230	200/230	D76	75/63	80/63
230/270	230/270	D64	63/53	63/50
270/325	270/325	D54	53/45	50/40
325/400	325/400	D46	45/38	45/38
400/500	400/500	D39	38/32	38/30
500/600	500/600	D33	32/26	30/20

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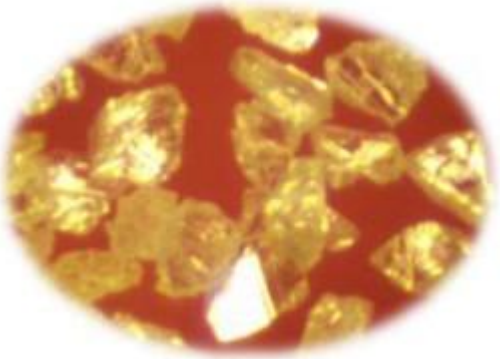
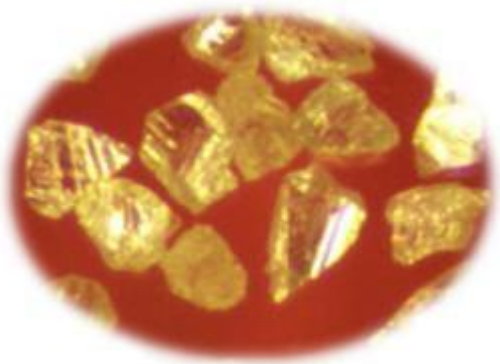
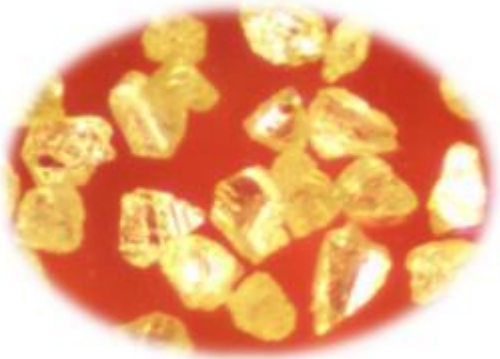
Product Specifications And Grades



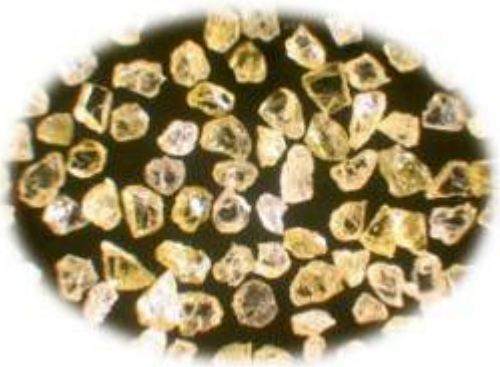
JCD-A
Features: Made from coarse-grain, high-strength single crystal synthetic diamond JSD30 through processes including crushing, purification, shaping, and sieving, this super-hard abrasive material presents irregular crystal shapes, low impurity content, low magnetism, and a rough, sharp surface.
Applications: Primarily used in heavy load ceramic bonded grinding tools, medium load metal bonded grinding tools, and electroplating grinding tools for processing non-metals like glass, ceramics, and stone. Offers better economy and grinding performance compared to the original fine-grained JSD30 single crystal.



JCD-B
Features: Derived from coarse-grain, premium single crystal synthetic diamond JSD20, processed through crushing, purification, shaping, and sieving, it is a super-hard abrasive material characterized by irregular crystals, minimal impurities, low magnetism, and a rugged, keen edge.
Applications: Mainly utilized in medium load ceramic and metal bonded grinding tools, as well as electroplating grinding tools for non-metallic materials such as glass, ceramics, and stone. Provides improved economics and grinding properties versus the native JSD20 single crystal fines.



JCD-C
Features: Utilizing coarse-grain, high-quality single crystal synthetic diamond JSD10 as the base, refined through crushing, purification, shaping, and sieving, this super-hard abrasive material boasts irregular crystal structures, low impurity levels, low magnetic susceptibility, a rough and sharp texture.
Applications: Suited for heavy load resin-bonded, medium load ceramic bonded, and light load metal bonded grinding tools in the machining of gems, glass, optical glass, ceramics, stone, etc. Offers enhanced economy and grinding efficiency over the original JSD10 single crystal fine powder.



JRD
Features: Using coarse-grain, high-quality resin-bonded synthetic diamond JRD as th e raw material, this super-hard abrasive ma terial is processed through crushing, purifi cation, shaping, and sieving. It has irregula r crystal forms, is yellowish-green in color, possesses low impurity content, a rough a nd sharp surface, and excellent self-sharpe ning properties.
Applications: Suitable for heavy load resin-bonded and light load ceramic bonded grin ding tools, ideal for grinding brittle materia ls like gemstones, stone, ceramic tiles, gla ss, optical glass, and rough machining of c emented carbide. As an economical resin d iamond, it offers high grinding efficiency.

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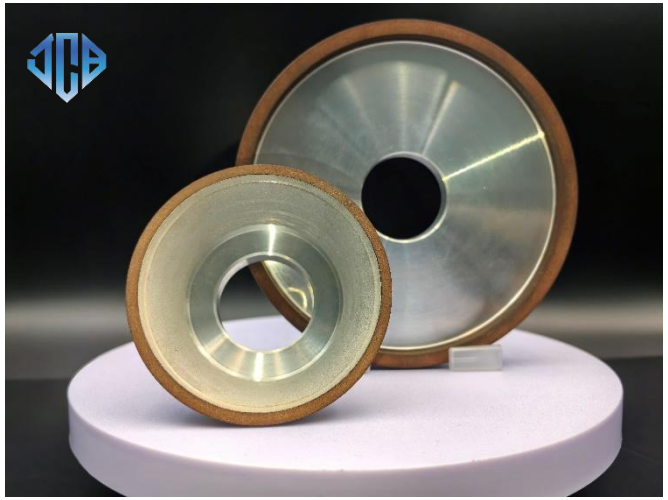
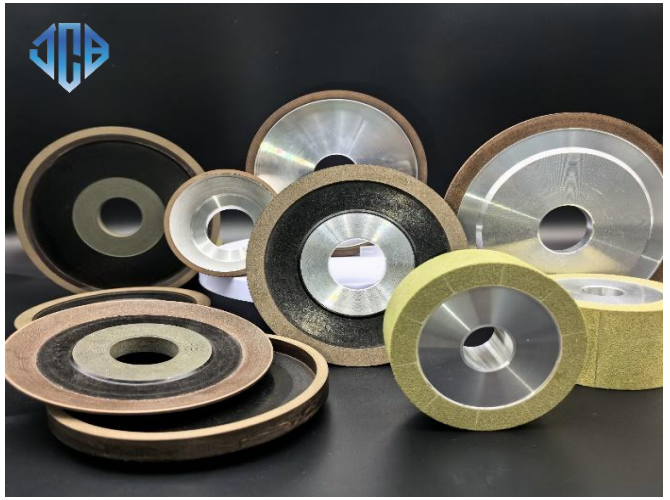
Application





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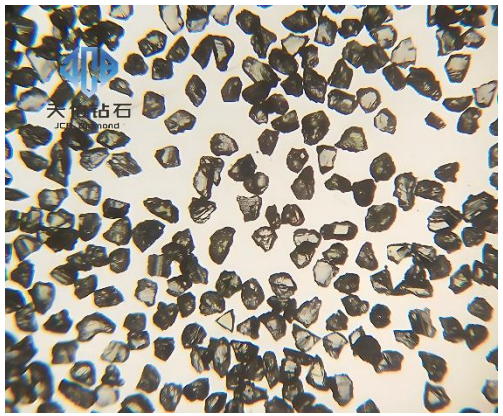
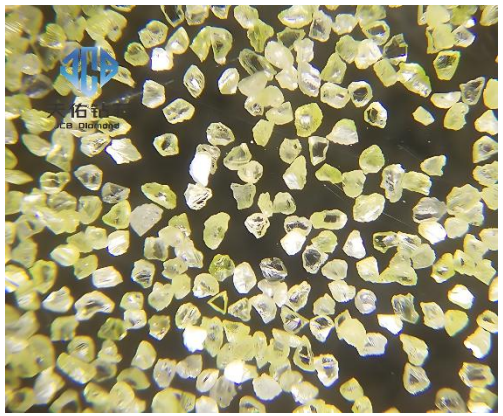
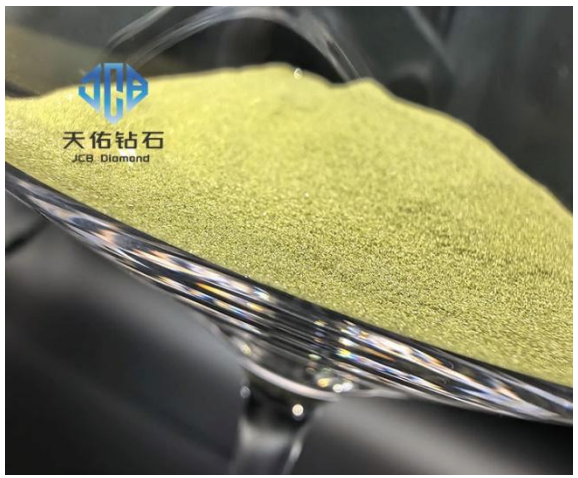
Product Photo







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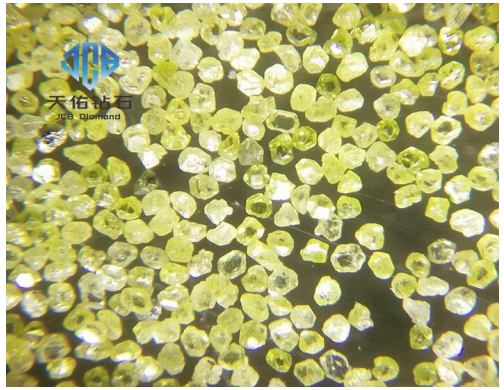
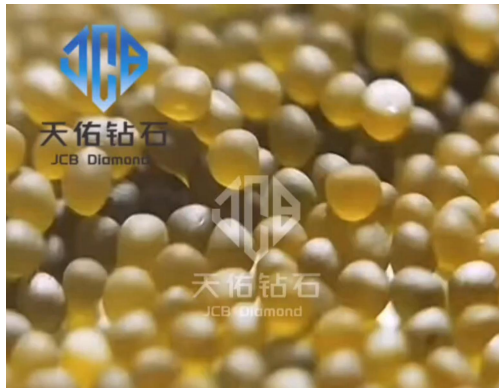
Reshaped Diamond Powder JRCD Series





- JCB JRCD Series Reshaped Diamond Powder is fabricated using crushed material JCD as the raw ingredient.
- Undergoing shaping and other processes.
- The product features regular crystal shapes, presenting as nearly isometric oval or spherical particles.
- With low impurity content, low magnetism, and a rough surface texture.

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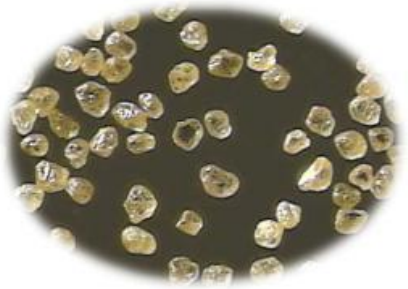
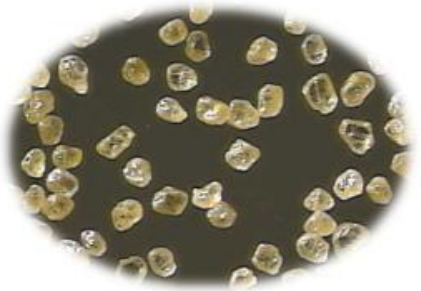
Product Specifications And Grades



JRCD-A
Features: Processed from Crushed material JCD-A through shaping and other techniques, this product boasts regular crystal shapes, nearly isometric oval or spherical particles, low impurities, low magnetism, and a rough surface.
Applications: Primarily used in the production of heavy-duty ceramic bonded grinding tools, medium-load metal bonded grinding tools, and electroplated grinding tools, suited for machining non-metals such as glass, ceramics, and stone. Offers higher strength and better wear resistance compared to JCD-A, and excellent economy and grinding properties compared to primary mono-crystalline fine powder JSD30.



JRCD-B
Features: Derived from Crushed material JCD-B through shaping and similar processes, it presents with uniform crystal structures, near-isometric oval or spherical grains, minimal impurities, low magnetic response, and a coarse surface.
Applications: Mainly utilized in the manufacturing of medium-load ceramic and metal bonded grinding tools, as well as electroplated tools, ideal for non-metallic materials like glass, ceramics, and stone. Outperforms JCD-B in terms of strength and wear resistance, and provides favorable economics and grinding efficiency when compared to native single crystal fine powder JSD20.

JRCD-C
Features: Manufactured based on Crushed material JCD-C through Plastic surgery and additional procedures, it exhibits consistent crystal patterns, particles resembling isometric ovals or spheres, low levels of contaminants, negligible magnetism, and a roughened exterior.
Applications: Suited primarily for heavy-resin bonded, medium-ceramic bonded, and light-metal bonded grinding tools, effectively processing gems, glass, optical glass, ceramics, stone, among other non-metals. Offers enhanced strength and wear resistance over JCD-C, and represents a cost-effective and efficient alternative to original mono-crystal fine powder JSD10.

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Particle Size Conversion Table

Grade, particle size	50/60	60/70	70/80	80/100	100/120	120/140	140/170
JRCD-A	Y	Y	Y	Y	Y	Y	Y
JRCD-B	Y	Y	Y	Y	Y	Y	Y
JRCD-C	Y	Y	Y	Y	Y	Y	Y
Grade, par ticle size	170/200	200/230	230/270	270/325	325/400	400/500	500/600
JRCD-A	Y	Y	Y	Y	Y	Y	Y
JRCD-B	Y	Y	Y	Y	Y	Y	Y
JRCD-C	Y	Y	Y	Y	Y	Y	Y

JCB GB/T6406-1995	USA ANSI US Mesh #	European Community FEPA D	International Standards ISO	Russia GOST9206-80
50/60	50/60	D301	300/250	315/250
60/70	60/70	D251	250/212	250/200
70/80	70/80	D213	212/180	
80/100	80/100	D181	180/150	200/160
100/120	100/120	D151	150/125	160/125
120/140	120/140	D126	125/106	125/100
140/170	140/170	D107	106/90	100/80
170/200	170/200	D91	90/75	
200/230	200/230	D76	75/63	80/63
230/270	230/270	D64	63/53	63/50
270/325	270/325	D54	53/45	50/40
325/400	325/400	D46	45/38	45/38
400/500	400/500	D39	38/32	38/30
500/600	500/600	D33	32/26	30/20

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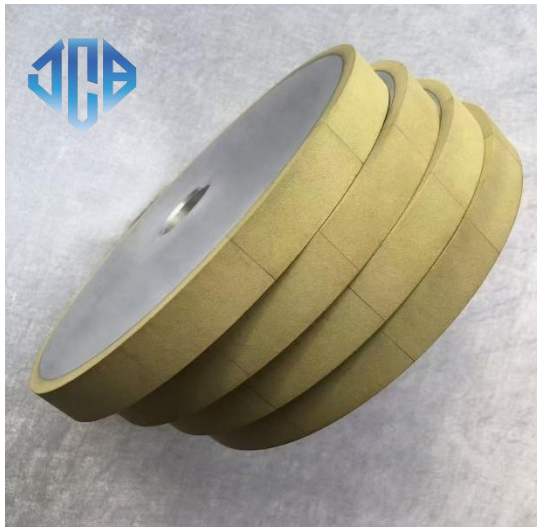
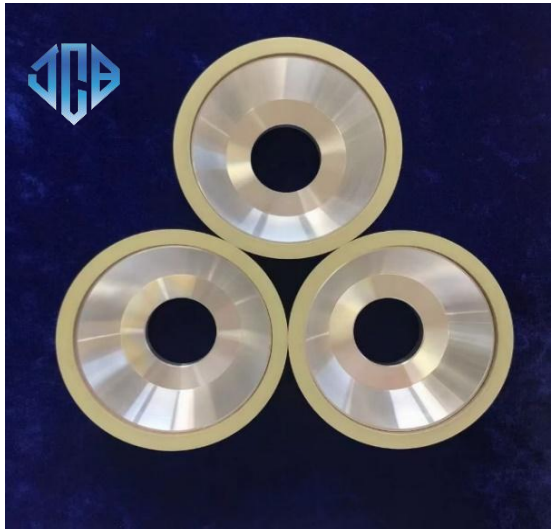
Application





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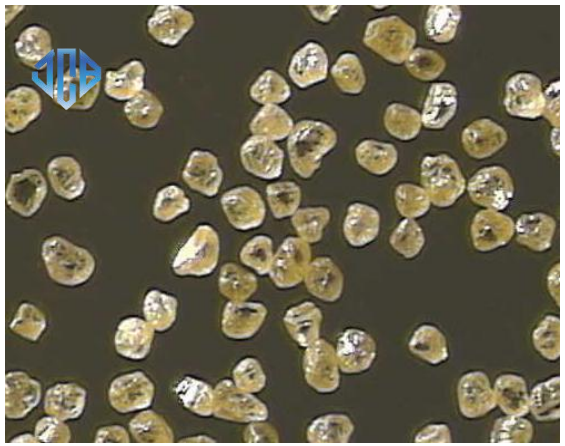
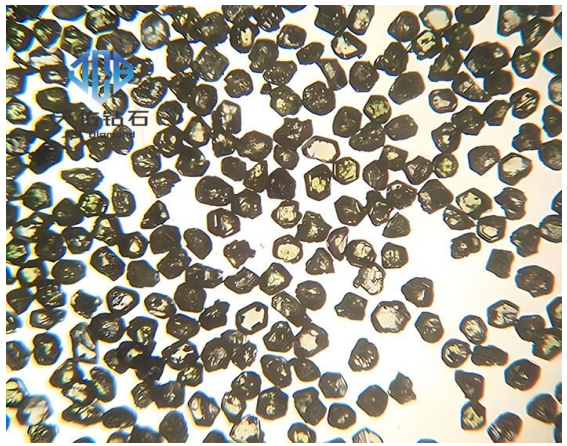
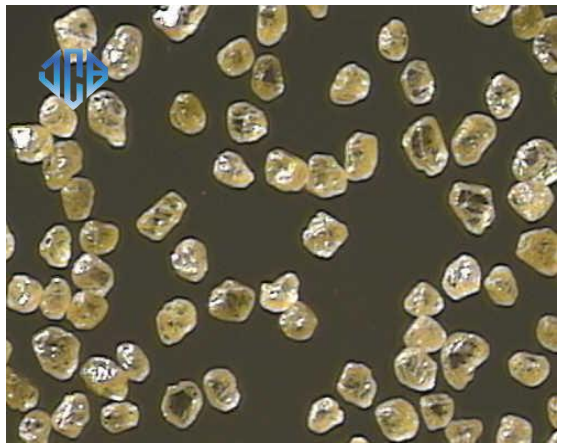
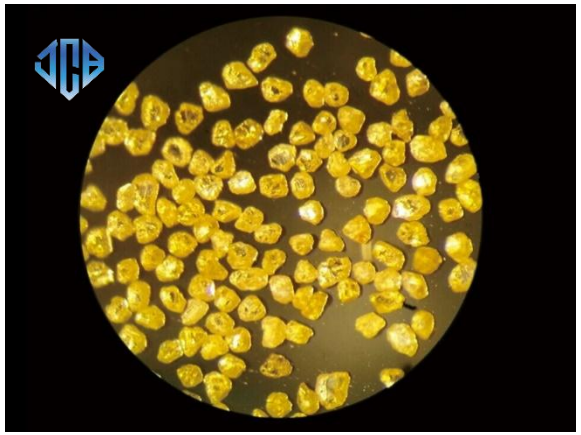
Product Photo









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JCB Diamond

Polycrystalline Diamond Abrasives APC4 Series

- JCB Polycrystalline Diamond Abrasives APC4 is produced using high-quality Polycrystalline Diamond (PCD) as raw material,
- undergoing processes such as crushing and sieving to create an ultra-hard abrasive material.
- The product features irregular crystal shapes, a rough and sharp surface, and is primarily used in the manufacture of heavy-duty metal bond tools and diamond impregnated drill bits.
- It is designed for applications involving the machining of stone, concrete, construction materials, grinding wheel dressing tools, and drilling in medium-hard rock formations.

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Product Specifications And Grades

APC4
Features: Irregular crystal shape, rough, and sharp surface.
Applications: Primarily used in the manufacturing of heavy-duty metal bonded tools and diamond impregnated drill bits, suited for processing stone, concrete, construction materials, grinding wheel dressing tools, and drilling in medium-hard rock formations.

Grade, particle size	25/30	20/25	18/20	16/18	14/16	12/14	10/12	8/10	6/8	4/6
APC4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Grade, p article si ze	140/170	120/140	100/120	80/100	70/80	60/70	50/60	40/50	35/40	30/35
APC4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Grain Size Conversion Table

Mesh	25/30	20/25	18/20	16/18	14/16	12/14	10/12	8/10	6/8	4/6
MM	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	3.0	4.0

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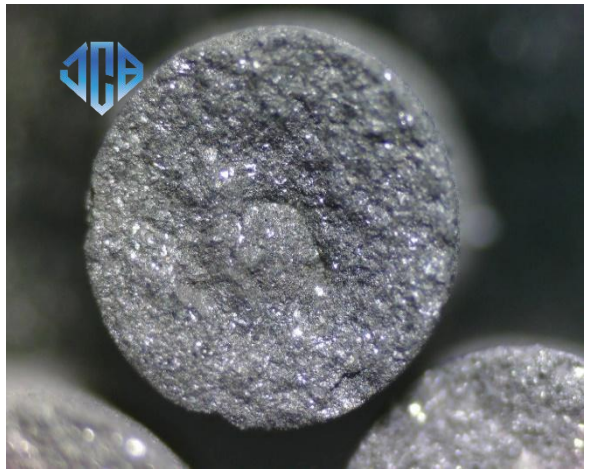
JCB Diamond

Product Photo



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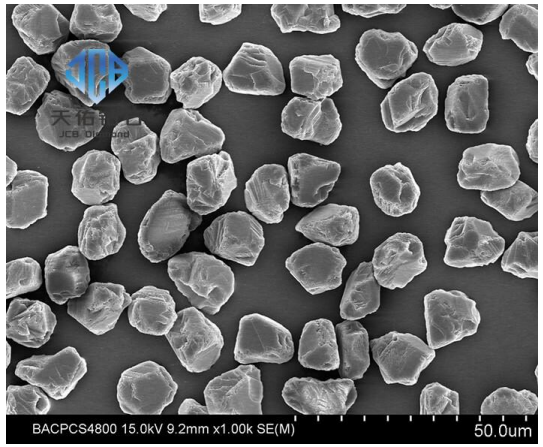
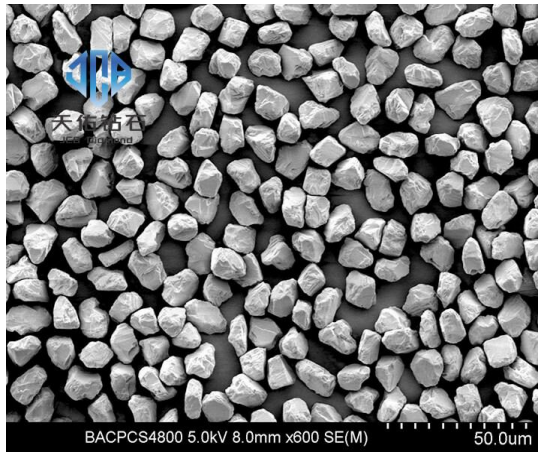
Henan JCB Superhard Material Co., Ltd

JCB Diamond

General Diamond Micron Powder JGDM Series





- JCB JGDM series diamond micro powder refers to diamond particles with a particle size finer than 60/40 microns,
- which are produced using high-quality single crystal diamonds as raw materials and undergo processes such as crushing, shaping, purification, and classification.
- JCB JGDM series diamond micro powder boasts high hardness and excellent wear resistance, making it suitable for cutting, grinding, and polishing applications.
- It serves as an ideal raw material for grinding and polishing hard materials like cemented carbides, ceramics, gems, optical glass, and is widely used in industries including machinery, aerospace, optics, glass, ceramics, electronics, petroleum, geology, defense, and more.
- With the continuous development of technology and products, the application fields of JCB JGDM series diamond micro powder and its products are continually expanding.

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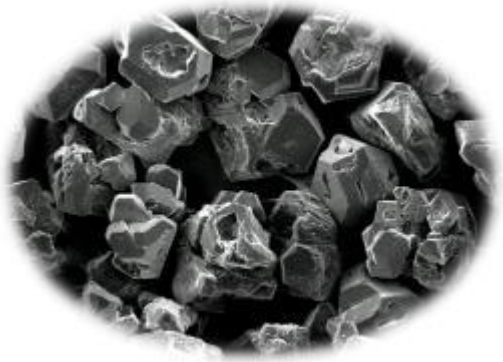
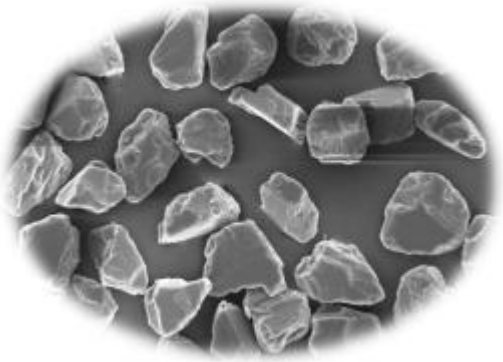
Product Specifications And Grades

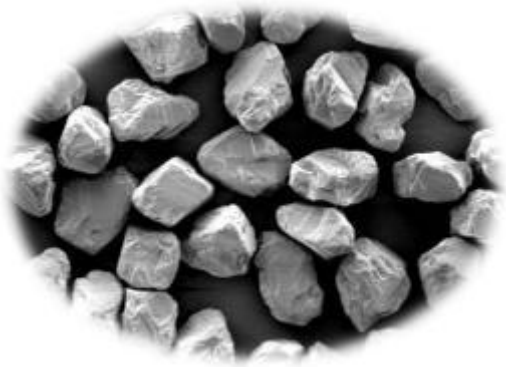


ACM
Features: Utilizes premium resin-bonded diamond JBD6(AC6) as raw material, processed through advanced manufacturing techniques including crushing, shaping, purification, and grading. The product is light gray, has a regular crystalline shape, low impurity content, low magnetism, excellent self-sharpening properties, a polycrystalline-like structure, and precise control over shape and particle size distribution.
Applications: Suitable for the production of resin-bonded abrasives, grinding pastes, and grinding fluids, used in precision polishing of hard alloys, optical glass, and areas requiring extremely high product quality.



JGDM-D
Features: Made from high-quality resin-bonded diamond JRD, processed through advanced manufacturing methods involving crushing, shaping, purification, and grading. The product is light yellow-green, has a relatively regular crystal shape, low impurity content, good self-sharpening properties, and uniform particle size distribution.
Applications: Ideal for resin-bonded, ceramic-bonded abrasives, grinding pastes, and fluids. Used in polishing gemstones, stone, ceramic tiles, glass, optical glass, and hard alloys. An economical resin diamond micro powder with high grinding efficiency and wear resistance.

JGDM-C
Features: A general-purpose powder, made from high-quality single-crystal synthetic diamond JSD10. Processed using advanced technology, including crushing, shaping, purification, and grading. The product is light yellow, has a relatively regular crystal form, low impurity content, low magnetism, and even particle size distribution.
Applications: Suited for metal-bonded, ceramic-bonded, and resin-bonded abrasives, grinding pastes, and fluids. Used in polishing gemstones, glass, optical glass, ceramics, stone, PCD/PCBN, and other non-metallic materials.



JGDM-B
Features: A high-strength powder, made from premium single-crystal diamond JSD20. Processed through advanced techniques involving crushing, shaping, purification, and grading. The product is light yellow, has a regular crystal shape, low impurity content, low magnetism, and a concentrated particle size distribution.
Applications: For metal-bonded, ceramic-bonded abrasives, electroplated tools, grinding pastes, and fluids. Used in the production of precision grinding wheels for optical glass, fine grinding pellets, edge grinding wheels, precision polishing discs, sapphire precision grinding wheels for silicon materials, precision processing tools for gems and jade, and wire saws for slicing monocrystalline silicon and sapphire.

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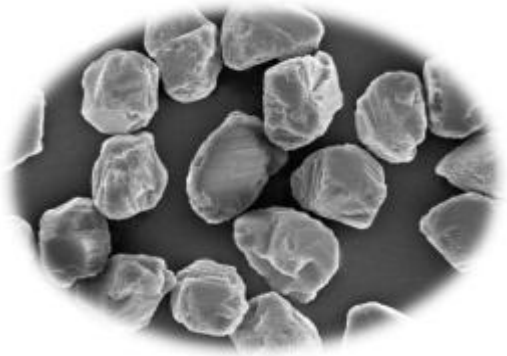
JGDM-A

Features: A high-strength powder, made from high-strength premium single-crystal diamond JSD30. Processed through advanced manufacturing techniques including crushing, shaping, purification, and grading. The product is light yellow, has a regular crystal shape, extremely low impurity content, low magnetism, a concentrated particle size distribution, high strength, excellent dispersion, and wear resistance.

Applications: Suitable for metal-bonded tools, ceramic-bonded tools, and various electroplated tools. Used in cutting, grinding, and polishing of organic and inorganic brittle materials. Applications include wire saws for slicing monocrystalline silicon and sapphire, precision cutting blades for gems and semiconductors, as well as precision grinding and polishing tools for single crystal silicon, polysilicon, diamonds, gems, sapphires, quartz wafers, LED sapphire substrates, liquid crystal glass, high-precision magnetic materials, semiconductors, and other advanced materials.



Grade, particle size	ACM	JGDM-D	JGDM-C	JGDM-B	JGDM-A
0-0.05			Y	Y	Y
0-0.1			Y	Y	Y
0-0.125			Y	Y	Y
0-0.2		Y	Y	Y	Y
0-0.25		Y	Y	Y	Y
0-0.5	Y	Y	Y	Y	Y
0-1	Y	Y	Y	Y	Y
0-2	Y	Y	Y	Y	Y
1-2	Y	Y	Y	Y	Y
1-3	Y	Y	Y	Y	Y
2-3	Y	Y	Y	Y	Y
2-4	Y	Y	Y	Y	Y
2-5	Y	Y	Y	Y	Y
3-5	Y	Y	Y	Y	Y
4-6	Y	Y	Y	Y	Y
4-8	Y	Y	Y	Y	Y
5-7	Y	Y	Y	Y	Y
5-10	Y	Y	Y	Y	Y
6-12	Y	Y	Y	Y	Y
7-10	Y	Y	Y	Y	Y
8-12	Y	Y	Y	Y	Y
8-16	Y	Y	Y	Y	Y
10-14	Y	Y	Y	Y	Y
10-20	Y	Y	Y	Y	Y
14-20	Y	Y	Y	Y	Y
12-22	Y	Y	Y	Y	Y
15-25	Y	Y	Y	Y	Y
20-28	Y	Y	Y	Y	Y
20-30	Y	Y	Y	Y	Y
22-36	Y	Y	Y	Y	Y
20-40	Y	Y	Y	Y	Y
28-40	Y	Y	Y	Y	Y
30-40	Y	Y	Y	Y	Y
40-50	Y	Y	Y	Y	Y
40-60	Y	Y	Y	Y	Y
50-60	Y	Y	Y	Y	Y

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Particle Size Conversion Table

Chinese standard	International Standards	Japanese standard/mesh (#)	Russia GOST9206-80	MedianD50 (μm)
w0.2	0-0.2	80000		0.1
w0.25	0-0.25	60000		0.11 ~ 0.20
w0.5	0-0.5	30000	0.5/0	0.20 ~ 0.30
w1	0-1	15000	1/0	0.6 ~ 0.8
w1.5-	0-2	13000		0.8 ~ 1.0
w1.5	1-2	12000	2/1	1.1 ~ 1.3
w2.5	1-3	10000		1.6 ~ 1.8
W3	2-3	7000	3/2	1.9 ~ 2.1
w3.5	2-4	6000		2.6 ~ 3.0
W5-	2-5	5000	5/3	3.1 ~ 3.4
w5	3-6	4000		3.5 ~ 4.2
W5+	4-6	3500		4.4 ~ 5.0
w7	4-8	3000	7/5	5.0 ~ 6.0
W7+	4-9	2500		6.1 ~ 6.5

w10-	5-10	2000	10/7	6.5 ~ 7.3
w10	6-12	1800		7.3 ~ 8.3
w10+	8-12	1600		8.3 ~ 9.0
w14-	7-14	1500		9.1 ~ 10.5
w14	8-16	1300	14/10	10.0 ~ 12.0
w20-	10-20	1200		12.5 ~ 15.0
w20	12-22	1000	20/14	15.0 ~ 17.0
w20+	15-25	800		18.0 ~ 20.0
w28	20-30	700	28/20	20 ~ 23
w28+	22-36	600		23 ~ 26
w40-	20-40	500		26 ~ 29
w40	30-40	450	40/28	29 ~ 32
w40+	35-45	400		32 ~ 36
w50	40-60	350	60/40	37 ~ 43

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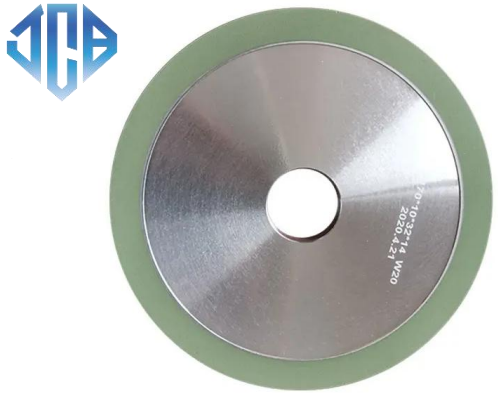
Application



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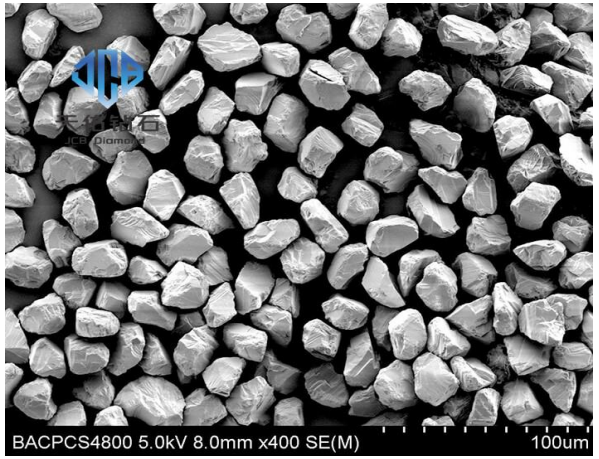
Product Photo



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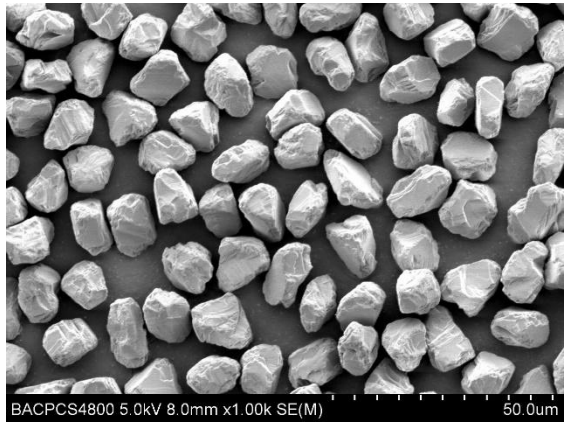
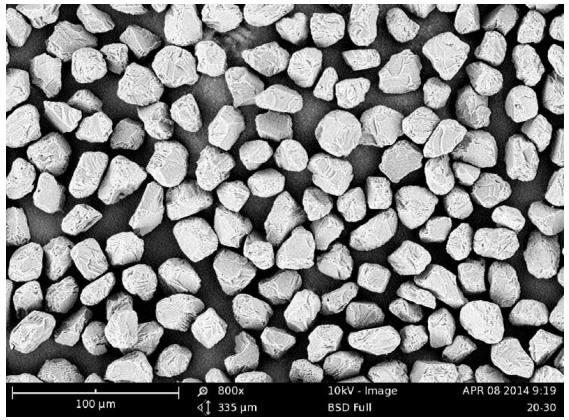
Special Diamond Micron Powder JSDM Series





- JCB JSDM Series specialized diamond micropowder is made from high-quality single crystal diamond JSD series of JCB as raw material.
- It is processed through precise manufacturing techniques, including crushing, shaping, purification, special acid-base treatment, and grading.
- JCB specialized diamond micropowder is mainly used for the production of PCD cutting tool composites,
- PDC oilfield and coalfield composites, diamond polycrystalline sheets, diamond polycrystalline wire drawing die cores, TSP, diamond wire saws, and so on.

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Product Specifications And Grades

JCB Diamond

JSDM -PCD/PDC
Features: Made from high-strength, high-purity JSD series diamond raw materials, processed through precision manufacturing techniques, including crushing, shaping, special purification, special acid-base treatment, and grading. The product is light yellow, with regular crystal shape, uniform and concentrated particle size distribution, impurity content controlled at a few parts per million (less than 5PPM), good thermal stability, and high wear resistance. The micro-powder surface is treated with a special process, making the particle surface smooth and clean, more conducive to the stable growth of composite sheets and polycrystalline diamonds.
Applications: Suitable for producing PCD cutting tool composite sheets, PDC composite sheets for oil and coal fields, cobalt-based CD wire drawing die cores, etc.

JSDM –TSP
Features: Made from high-quality JSD series diamond raw materials, processed through precision manufacturing techniques, including crushing, shaping, purification, special acid-base treatment, and grading. The product is light yellow, with regular crystal shape, uniform and concentrated particle size distribution, extremely low impurity content, good thermal stability, and high wear resistance.
Applications: Suitable for producing PDC stone composite sheets, TSP, and silicon-based polycrystalline wire drawing die cores, etc.

JSDM -WS
Features: Made from high-strength JSD series diamond raw materials, processed through advanced manufacturing techniques, including crushing, shaping, purification, and grading. The product is light yellow, with regular crystal shape, nearly equiaxed elliptical particles, concentrated and uniform particle size, extremely low impurity content, strong wear resistance, and good dispersibility.
Applications: Suitable for producing diamond wire saws or other diamond cutting tools, used for cutting sapphire, polysilicon, single crystal silicon, gemstones, quartz wafers, LED displays, liquid crystal glass, magnetic materials, semiconductors, and other valuable and fragile high-tech materials.

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Grade Particle Size	JSDM -PCD/PDC	JSDM –TSP	JSDM -WS
0-0.5	Y	Y	Y
0-1	Y	Y	Y
0-2	Y	Y	Y
1-2	Y	Y	Y
1-3	Y	Y	Y
2-3	Y	Y	Y
2-4	Y	Y	Y
2-5	Y	Y	Y
3-5	Y	Y	Y
4-6	Y	Y	Y
4-8	Y	Y	Y
5-7	Y	Y	Y
5-10	Y	Y	Y
6-12	Y	Y	Y
7-10	Y	Y	Y
8-12	Y	Y	Y
8-16	Y	Y	Y
10-14	Y	Y	Y
10-20	Y	Y	Y
14-20	Y	Y	Y
12-22	Y	Y	Y
15-25	Y	Y	Y
20-28	Y	Y	Y
20-30	Y	Y	Y
22-36	Y	Y	Y
20-40	Y	Y	Y
28-40	Y	Y	Y
30-40	Y	Y	Y
40-50	Y	Y	Y
40-60	Y	Y	Y
50-60	Y	Y	Y

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Particle Size Conversion Chart

Chinese standard	International Standards	Japanese standard/mesh (#)	Russia GOST9206-80	MedianD50 (μm)
w0.2	0-0.2	80000		0.1
w0.25	0-0.25	60000		0.11 ~ 0.20
w0.5	0-0.5	30000	0.5/0	0.20 ~ 0.30
w1	0-1	15000	1/0	0.6 ~ 0.8
w1.5-	0-2	13000		0.8 ~ 1.0
w1.5	1-2	12000	2/1	1.1 ~ 1.3
w2.5	1-3	10000		1.6 ~ 1.8
W3	2-3	7000	3/2	1.9 ~ 2.1
w3.5	2-4	6000		2.6 ~ 3.0
W5-	2-5	5000	5/3	3.1 ~ 3.4
w5	3-6	4000		3.5 ~ 4.2
W5+	4-6	3500		4.4 ~ 5.0
w7	4-8	3000	7/5	5.0 ~ 6.0
W7+	4-9	2500		6.1 ~ 6.5
w10-	5-10	2000	10/7	6.5 ~ 7.3
w10	6-12	1800		7.3 ~ 8.3
w10+	8-12	1600		8.3 ~ 9.0
w14-	7-14	1500		9.1 ~ 10.5
w14	8-16	1300	14/10	10.0 ~ 12.0
w20-	10-20	1200		12.5 ~ 15.0
w20	12-22	1000	20/14	15.0 ~ 17.0
w20+	15-25	800		18.0 ~ 20.0
w28	20-30	700	28/20	20 ~ 23
w28+	22-36	600		23 ~ 26
w40-	20-40	500		26 ~ 29
w40	30-40	450	40/28	29 ~ 32
w40+	35-45	400		32 ~ 36
w50	40-60	350	60/40	37 ~ 43

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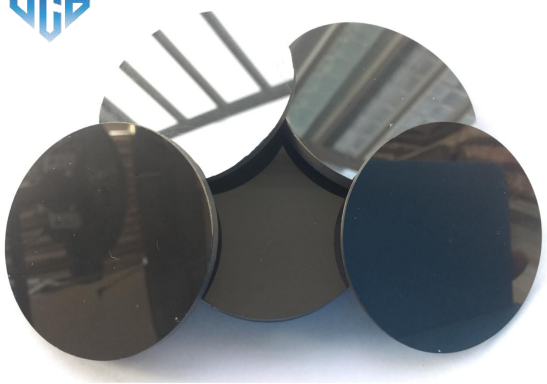
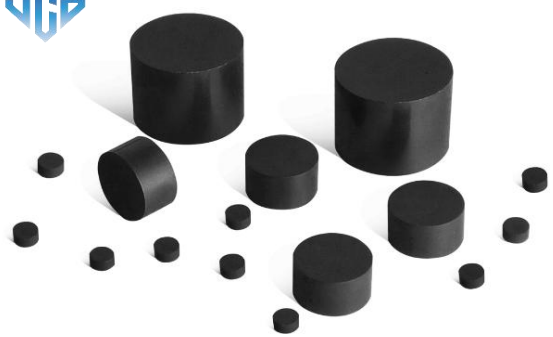
Application





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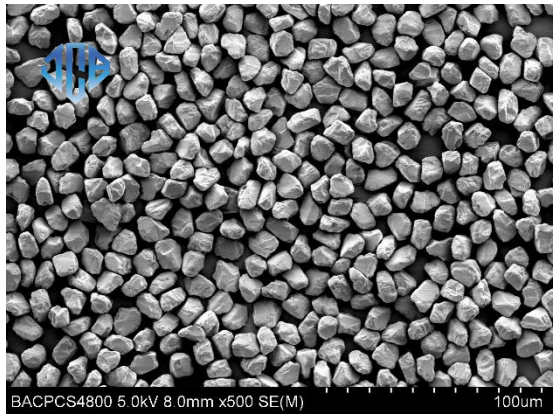
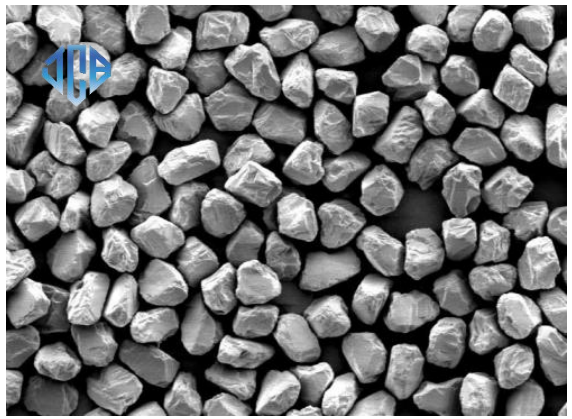
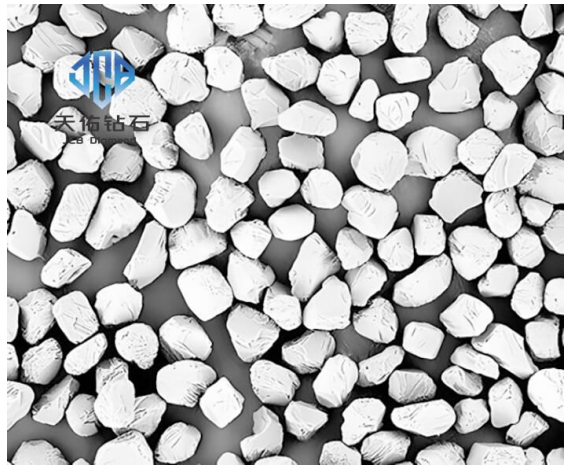
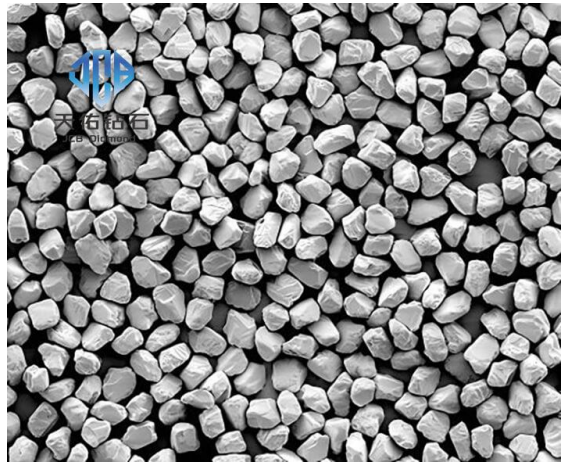
Product Photo









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As Grown Diamond Micron Powder JASM Series

JCB Diamond

Unlike the production method of micro-powders through conventional crushing, native diamond micro-powder is synthesized directly through high temperature and high pressure. Its advantages are as follows:

1.Complete and regular crystal structure, free of agglomeration and small particles;

2. Concentrated particle size distribution;

3.High strength, excellent wear resistance, and high thermal stability;

4. Extremely high purity, with impurity content less than 0.01%, reaching ppm level;

5.High grinding efficiency, achieving a good mirror finish;

6. Energy-saving and long service life.

Applications

1.Metal bond/D-electroplated grinding wheels (grinding heads, edge grinding wheels);

2. Manufacturing of high-quality PDC;

3.Applications in diamond wire sawing (cutting of sapphire, SiC, GaN, Si, etc.);

4. Precision cutting, grinding of semiconductors, optical materials, electronic components, the IT industry, automotive industry, and aerospace industry.

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Product Specifications And Grades

Grade Particle Size	12-22	15-25	20-28	20-30	22-36	20-40	28-40	30-40	40-50	40-60
JASM	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Particle Size Comparison Table

Chinese standard	International Standards	Japanese standard/mesh (#)	Russia GOST9206-80	MedianD50 (μm)
w0.2	0-0.2	80000		0.1
w0.25	0-0.25	60000		0.11 ~ 0.20
w0.5	0-0.5	30000	0.5/0	0.20 ~ 0.30
w1	0-1	15000	1/0	0.6 ~ 0.8
w1.5-	0-2	13000		0.8 ~ 1.0
w1.5	1-2	12000	2/1	1.1 ~ 1.3
w2.5	1-3	10000		1.6 ~ 1.8
W3	2-3	7000	3/2	1.9 ~ 2.1
w3.5	2-4	6000		2.6 ~ 3.0
W5-	2-5	5000	5/3	3.1 ~ 3.4
w5	3-6	4000		3.5 ~ 4.2
W5+	4-6	3500		4.4 ~ 5.0
w7	4-8	3000	7/5	5.0 ~ 6.0
W7+	4-9	2500		6.1 ~ 6.5
w10-	5-10	2000	10/7	6.5 ~ 7.3
w10	6-12	1800		7.3 ~ 8.3
w10+	8-12	1600		8.3 ~ 9.0
w14-	7-14	1500		9.1 ~ 10.5
w14	8-16	1300	14/10	10.0 ~ 12.0
w20-	10-20	1200		12.5 ~ 15.0
w20	12-22	1000	20/14	15.0 ~ 17.0
w20+	15-25	800		18.0 ~ 20.0
w28	20-30	700	28/20	20 ~ 23
w28+	22-36	600		23 ~ 26
w40-	20-40	500		26 ~ 29
w40	30-40	450	40/28	29 ~ 32
w40+	35-45	400		32 ~ 36
w50	40-60	350	60/40	37 ~ 43

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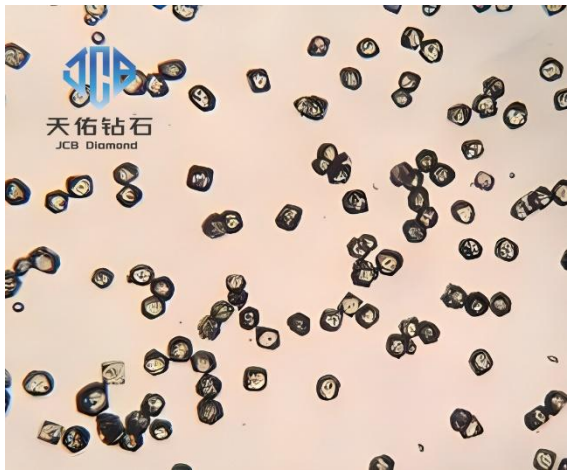
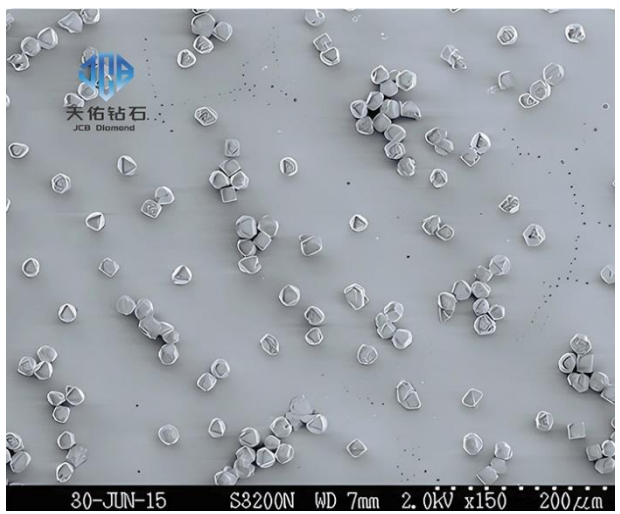
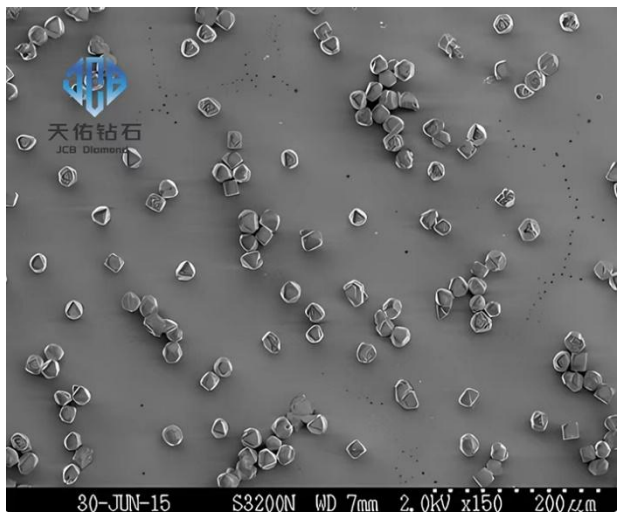
Product Photo







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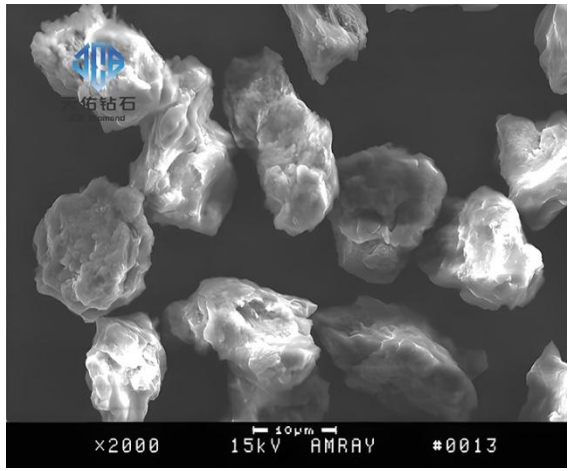
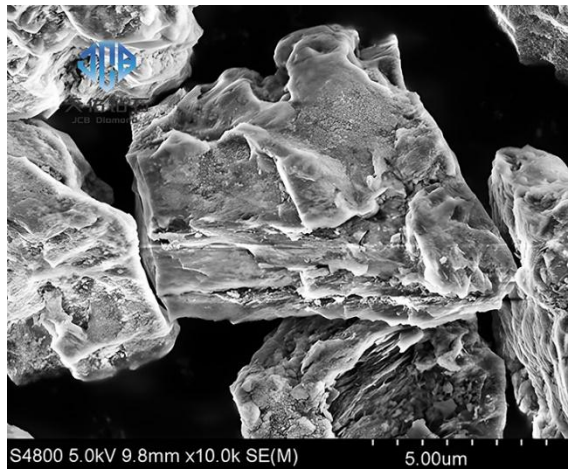
JCB Diamond

Polycrystalline Diamond Micron Powder JPDM Series





- JPDM, polycrystalline diamond micro-powder, is a nano-diamond aggregate synthesized through transient ultra-high pressure and high-temperature explosion, similar to the black diamond found in a few meteorites in nature.
- It is a polycrystalline material composed of cubic diamond and hexagonal diamond, characterized by high toughness, high self-sharpening ability, and high hardness. As a new type of abrasive material,
- it has unique advantages in sapphire grinding and processing compared to other materials.
- Its grinding efficiency is 2 to 4 times higher than that of single-crystal diamond, and it does not produce scratches, resulting in high surface finish.
- It has wide applications in high-tech fields such as electronics, aerospace, and aviation. Due to the continuous expansion of new technology applications in industries such as LED in recent years,
- the usage of polycrystalline diamond micro-powder has increased significantly, and the demand has continued to grow.

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Product Performance

A. Polycrystalline diamond micro-powder synthesized through explosion has a polycrystalline structure similar to the expensive and rare black natural diamond, exhibiting a dark gray color, metallic luster, good toughness, and automatic edge-forming characteristics.

B. Compared to shock-synthesized static pressure or natural single-crystal diamond, silicon oxide, corundum, and other abrasives, the grinding efficiency of polycrystalline diamond is 2 to 4 times higher.

C. The grinding accuracy of polycrystalline diamond has been unprecedentedly improved.

a. When using 2 to 4 μm polycrystalline diamond powder for grinding, R < 1.6 nm.

b. When using 0 to 0.5 μm polycrystalline diamond powder for grinding, Ra = 1.3 to 1.4 nm.

c. When using 0 to 0.125 μm polycrystalline diamond powder for grinding, Ra < 0.1 nm.

D. Due to the "globular" shape on the surface of polycrystalline diamond, the surface of the workpiece being grinded is not prone to scratches, thereby improving the yield of grinding.

E. Polycrystalline diamond micro-powder can also be coated on the inner wall of workpieces (such as cylinders) through chemical coating methods, and its wear resistance is superior to any other material.

Applications of Polycrystalline Diamond Micro-powder:

A. Polishing sapphire, silicon, ceramics, metals, etc.

B. Processing magnetic head materials, anti-magnetic films (MR), multilayer films, sputtering films, molecular beam epitaxy (MBE), ferrite, and printed boards.

C. Processing optical fiber connectors, laser rods, and other products that require a certain degree of light wave transmission.

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Product Specifications And Grades

Grade Particle Size	JPDM	Median D50（μm）
0-0.15	Y	0.07
0-0.2	Y	0.1
0-0.25	Y	0.125
0-0.5	Y	0.25
0-1	Y	0.5
0-2	Y	1
1-3	Y	2
2-4	Y	3
2-6	Y	4
3-7	Y	5
4-8	Y	6
5-10	Y	7
6-10	Y	8
6-12	Y	9
8-16	Y	14
12-22	Y	17

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Application

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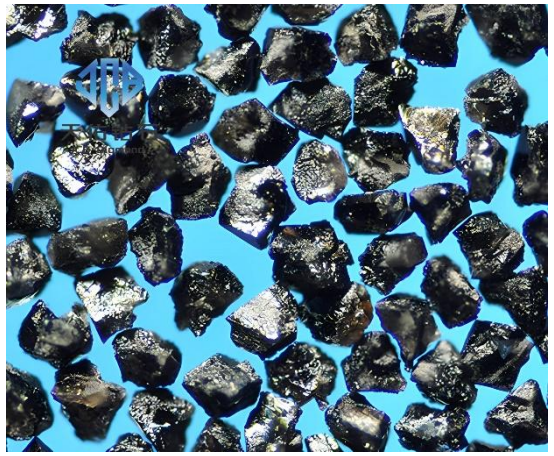
CBN



- CBN Monocrystal is a super hard material that is second only to diamond.
- It not only has many excellent characteristics of diamonds, but also has higher thermal stability and chemical inertia for iron metals and its alloy.
- The chemical nature prompts CBN to be particularly suitable for iron - cut alloy and other aerospace materials.
- The use of cubic boron nitride is a major contribution to metal processing, leading to revolutionary changes in grinding, and the second leap in grinding technology.
- JCB Series CBN has been widely used in high -tech fields such as aerospace, automobile military industry, wind power, and metallurgical appliances.

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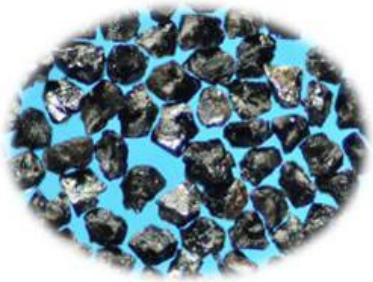
Product Specifications And Grades

Metal bond	Vitrified bond	Resin bond	Electroplating bond



CBN-B10

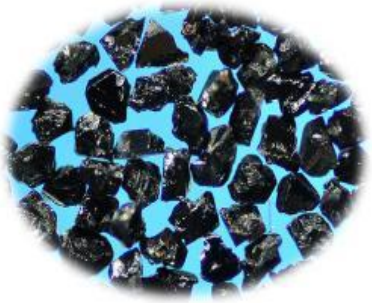
Features: Black monocrystalline, irregular in shape, low strength, sharp, fragile, and good self-sharpening.
Applications: Widely used in resin bond systems and low-temperature grinding.

CBN-A20

Characteristics: Amber-colored, irregular in shape with prominent edges, exceptionally brittle, and of moderate strength.
Applications: Frequently used in resin bonding systems.

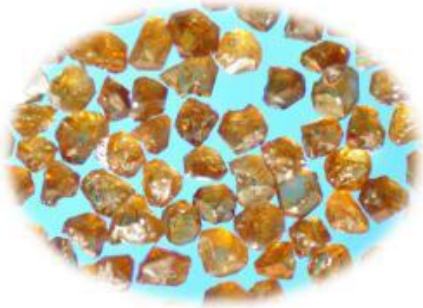
CBN-A45

Characteristics: Deep brown, with intact crystalline structure, high strength, and high thermal stability.
Applications: Compatible with ceramic, electroplated, and metal bonding systems.



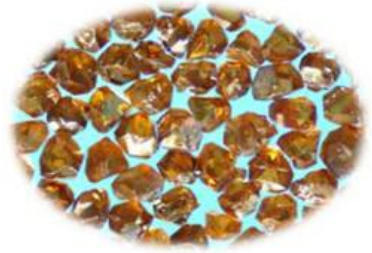
CBN-B15

Characteristics: Black monocrystalline, semi-blocky in form, medium strength, excellent sharpness, balancing grinding efficiency with wheel life.
Applications: Suitable for resin and ceramic bonding systems.



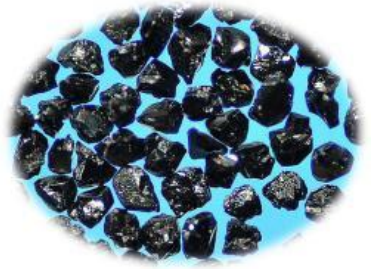
CBN-A25

Features: Amber in color, high transparency, with regular crystalline structure, and higher strength.
Applications: Suitable for ceramic and electroplated bonding agents.



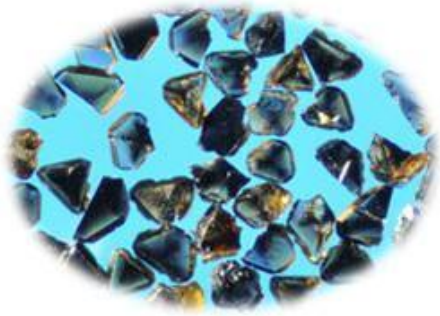
CBN-A50

Characteristics: Golden in color, with regular crystal structure, high strength, and exceptional thermal stability. Demonstrates remarkable grinding efficiency and extended wheel life during the grinding process.
Applications: Well-suited for electroplated and metal bonding systems, particularly for electroplated tooling applications.



CBN-B30

Features: Black, with regular crystalline structure, high strength, exhibiting unparalleled thermal stability in ultra-high speed and high-temperature grinding.
Applications: Extensively used in ceramic, electroplated, and metal bonding systems.



CBN-A40

Characteristics: Dark brown in color, irregular in shape with sharp corners, high strength, and excellent thermal stability.
Applications: Ideally suited for ceramic, electroplated, and metal bonding systems where high performance abrasives are required.

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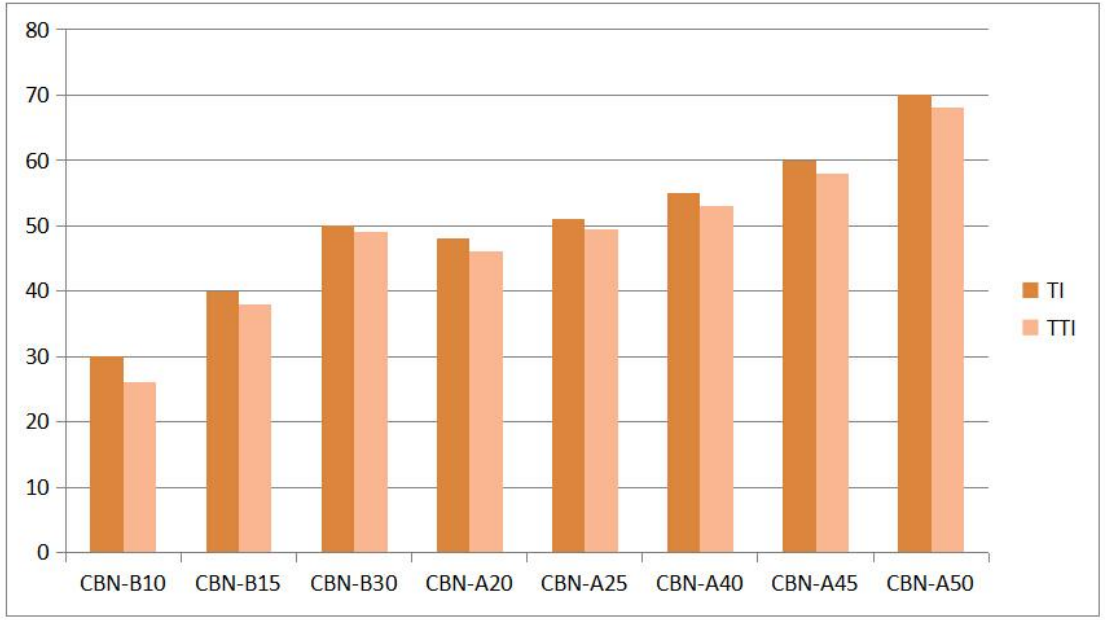

Grade Particle Size	CBN-B10	CBN-B15	CBN-B30	CBN-A20	CBN-A25	CBN-A40	CBN-A45	CBN-A50
40/45	Y	Y	Y	Y	Y	Y	Y	Y
45/50	Y	Y	Y	Y	Y	Y	Y	Y
50/60	Y	Y	Y	Y	Y	Y	Y	Y
60/70	Y	Y	Y	Y	Y	Y	Y	Y
70/80	Y	Y	Y	Y	Y	Y	Y	Y
80/100	Y	Y	Y	Y	Y	Y	Y	Y
100/120	Y	Y	Y	Y	Y	Y	Y	Y
120/140	Y	Y	Y	Y	Y	Y	Y	Y
140/170	Y	Y	Y	Y	Y	Y	Y	Y
170/200	Y	Y	Y	Y	Y	Y	Y	Y
200/230	Y	Y	Y	Y	Y	Y	Y	Y
230/270	Y	Y	Y	Y	Y	Y	Y	Y
270/325	Y	Y	Y	Y	Y	Y	Y	Y
325/400	Y	Y	Y	Y	Y	Y	Y	Y

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Particle Size Comparison Table

JCB GB/T6406-1995	USA ANSI US Mesh #	European Community FEPA D	International Standards ISO	Russia GOST9206-80
35/40	35/40	D501	500/425	500/400
40/45	40/45	D426	425/355	400/315
45/50	45/50	D356	355/300	400/315
50/60	50/60	D301	300/250	315/250
60/70	60/70	D251	250/212	250/200
70/80	70/80	D213	212/180	
80/100	80/100	D181	180/150	200/160
100/120	100/120	D151	150/125	160/125
120/140	120/140	D126	125/106	125/100
140/170	140/170	D107	106/90	100/80
170/200	170/200	D91	90/75	
200/230	200/230	D76	75/63	80/63
230/270	230/270	D64	63/53	63/50
270/325	270/325	D54	53/45	50/40
325/400	325/400	D46	45/38	45/38

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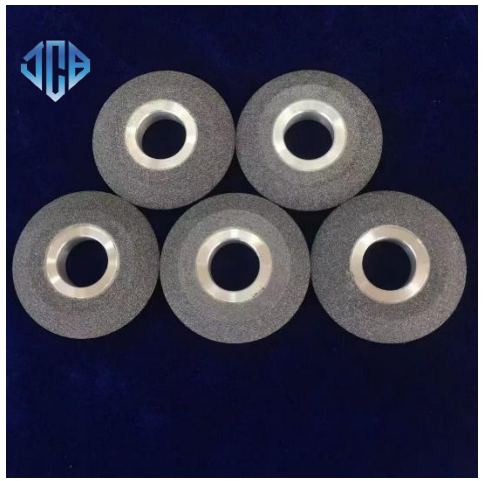
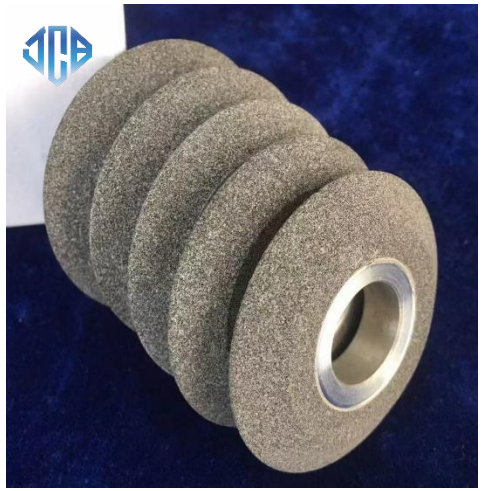
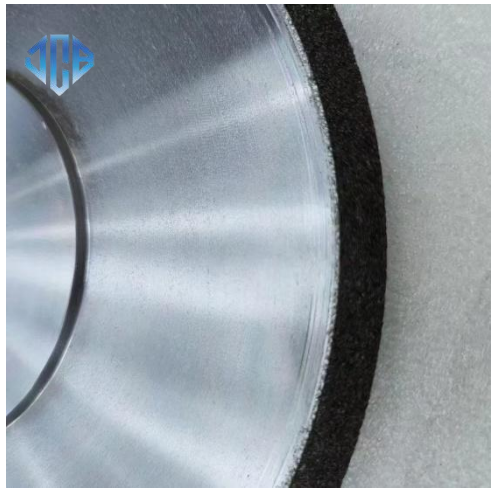
Application







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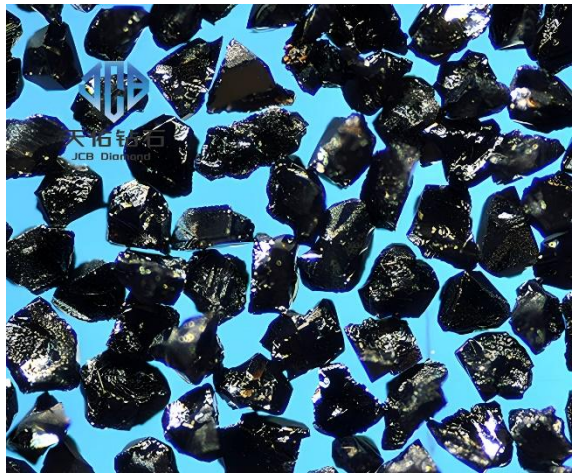
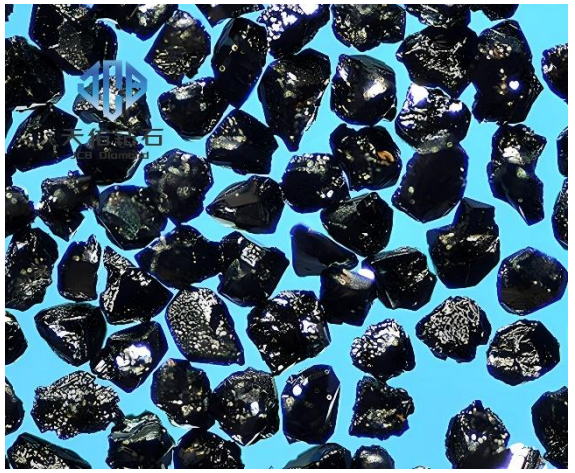
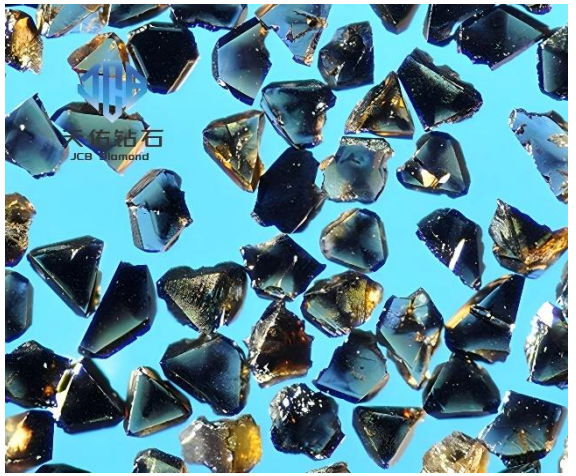
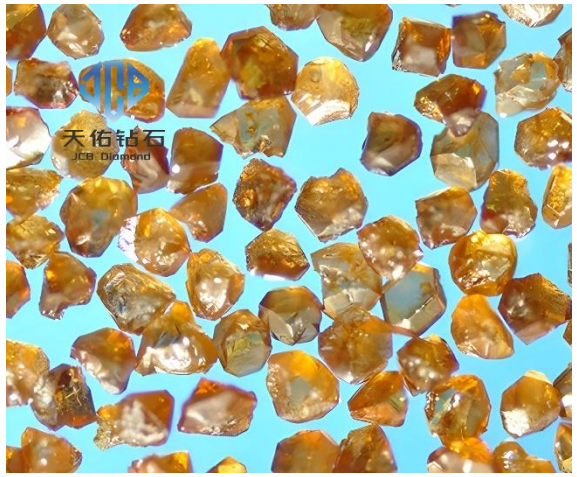
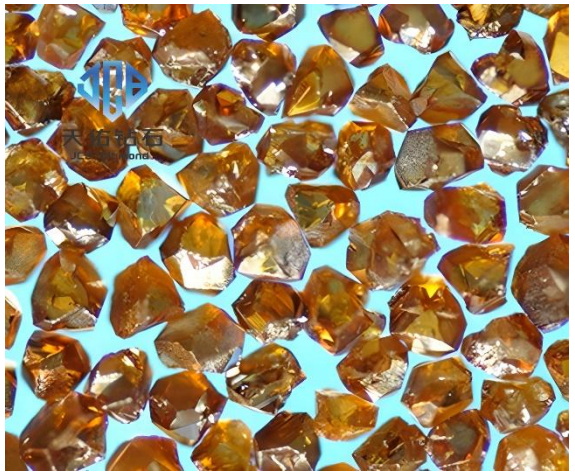
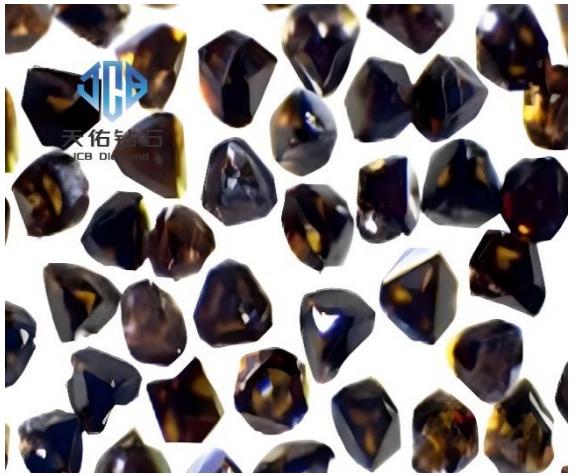
Product Photo

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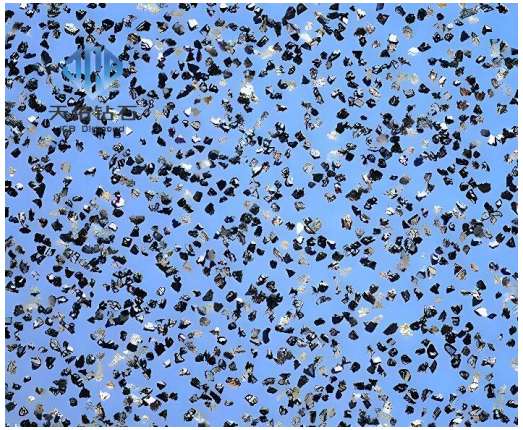
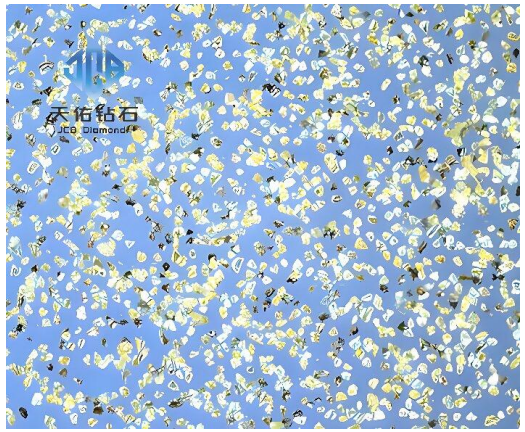
CBN Micron Powder





- JCB CBN micro powder refers to CBN particles with a particle size in 60/40 microns.
- It is made of high -quality JCB CBN single crystal as raw materials, which are processed by crushing, plastic surgery, purity, and classification.
- JCB CBN micro powder is suitable for resin -binding agents, ceramic binding agents and metal binders, which are widely used for grinding and polishing black metals;
- they are also used to produce high -quality PCBN polyars and PCBN composite.

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Product Specifications And Grades

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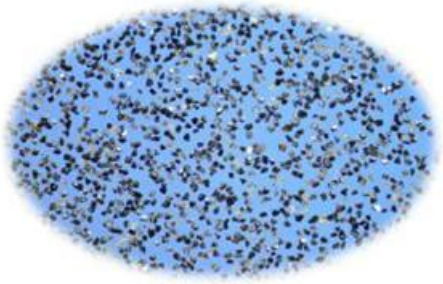
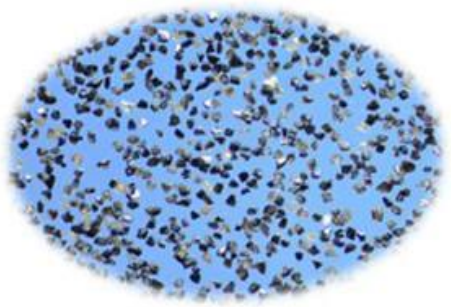


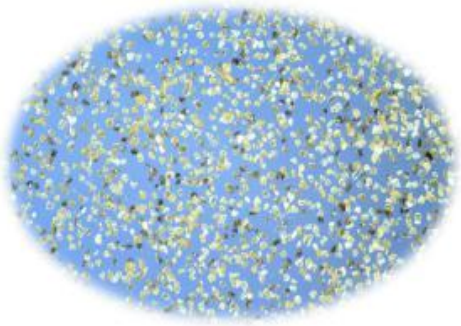
CBN-MB10

Features: The selection of high-quality CBN-B10 as raw materials, th e use of advanced production and processing technology, through crushing, shaping, purification, grading and other processes proces sing, black, complete specifications, high crystal purity, good therm al stability, good self-sharpening and high grinding efficiency.
Application: Suitable for resin bonding, it is an ideal material for gri nding and polishing ferrous metals.



CBN-MB30

Features: The selection of high-quality CBN-B30 as raw materials, the use of advanced production and processing technology, through crushing, shaping, purification, grading and other processes processing, black, complete specifications, high crystal purity, high strength, good thermal stability.
Application: Suitable for ceramic binder and metal binder, mainly used in the production of high quality PCBN polychip and PCBN composite.



CBN-MA20

Features: The selection of high-quality CBN-A20 as raw materials, the use of advanced production and processing technology, by crushing, shaping, purification, grading and other processes processing, amber, complete specifications, high crystal purity, good thermal stability, good self-sharpening and high grinding efficiency.
Application: Suitable for resin bonding, it is an ideal material for grinding and polishing ferrous metals.

Grade Particle Size	CBN-MB10	CBN-MB30	CBN-MA20
0-0.5	Y	Y	Y
0-1	Y	Y	Y
0-2	Y	Y	Y
1-2	Y	Y	Y
1-3	Y	Y	Y
2-3	Y	Y	Y
2-4	Y	Y	Y
2-5	Y	Y	Y
3-5	Y	Y	Y
4-6	Y	Y	Y
4-8	Y	Y	Y
5-7	Y	Y	Y
5-10	Y	Y	Y
6-12	Y	Y	Y
7-10	Y	Y	Y
8-12	Y	Y	Y
8-16	Y	Y	Y
10-14	Y	Y	Y
10-20	Y	Y	Y
14-20	Y	Y	Y
12-22	Y	Y	Y
15-25	Y	Y	Y
20-28	Y	Y	Y
20-30	Y	Y	Y
22-36	Y	Y	Y
20-40	Y	Y	Y
28-40	Y	Y	Y
30-40	Y	Y	Y
40-50	Y	Y	Y
40-60	Y	Y	Y
50-60	Y	Y	Y

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Particle Size Comparison Table

Chinese standard	International Standards	Japanese standard/mesh (#)	Russia GOST9206-80	MedianD50 (μm)
w0.5	0-0.5	30000	0.5/0	0.20 ~ 0.30
w1	0-1	15000	1/0	0.6 ~ 0.8
w1.5-	0-2	13000		0.8 ~ 1.0
w1.5	1-2	12000	2/1	1.1 ~ 1.3
w2.5	1-3	10000		1.6 ~ 1.8
W3	2-3	7000	3/2	1.9 ~ 2.1
w3.5	2-4	6000		2.6 ~ 3.0
W5-	2-5	5000	5/3	3.1 ~ 3.4
w5	3-6	4000		3.5 ~ 4.2
W5+	4-6	3500		4.4 ~ 5.0
w7	4-8	3000	7/5	5.0 ~ 6.0
W7+	4-9	2500		6.1 ~ 6.5
w10-	5-10	2000	10/7	6.5 ~ 7.3
w10	7-14	1500		9.1 ~ 10.5
w10+	8-12	1600		8.3 ~ 9.0
w14-	7-14	1500		9.1 ~ 10.5
w14	8-16	1300	14/10	10.0 ~ 12.0
w20-	10-20	1200		12.5 ~ 15.0
w20	12-22	1000	20/14	15.0 ~ 17.0
w20+	15-25	800		18.0 ~ 20.0
w28	20-30	700	28/20	20 ~ 23
w28+	22-36	600		23 ~ 26
w40-	20-40	500		26 ~ 29
w40	30-40	450	40/28	29 ~ 32
w40+	35-45	400		32 ~ 36
w50	40-60	350	60/40	37 ~ 43

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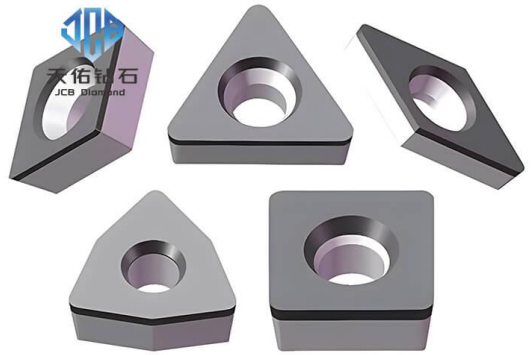
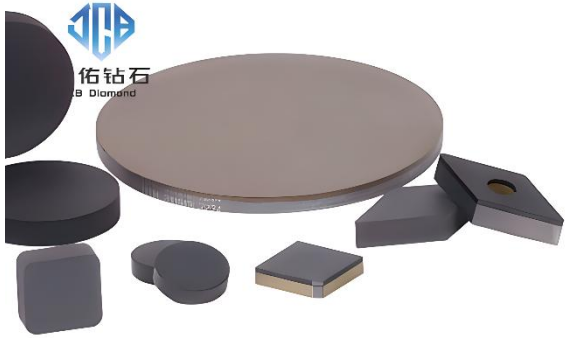
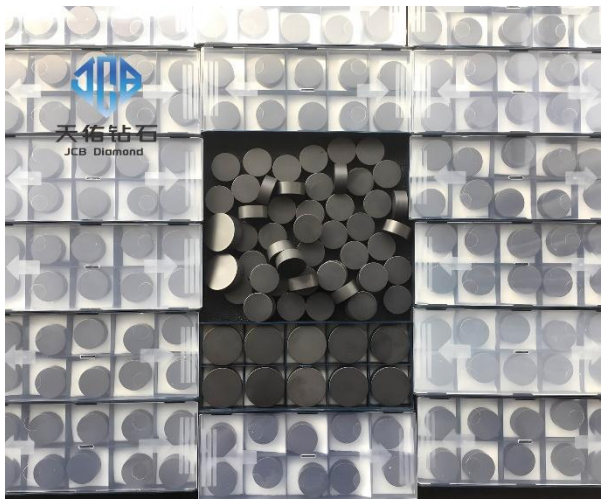
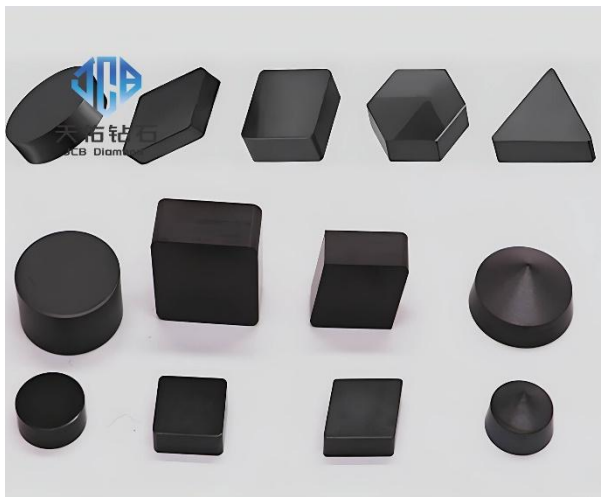
Application









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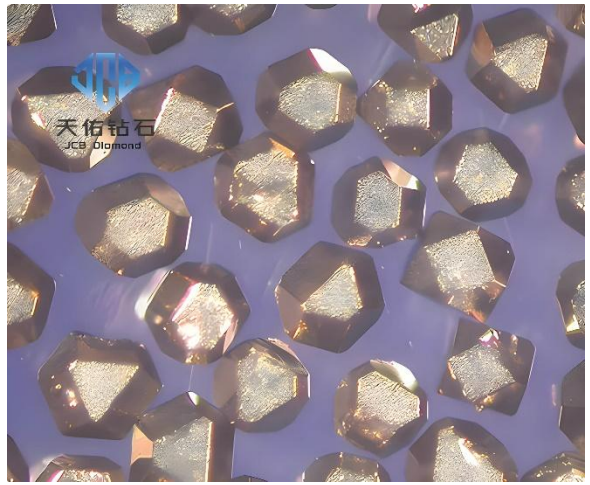
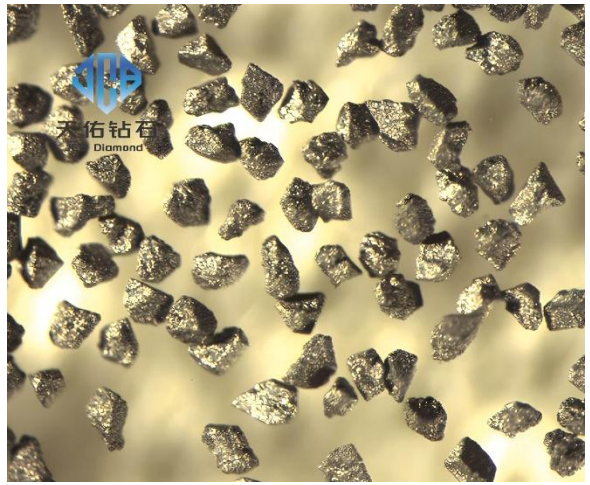
Coated Diamond And CBN





- Coated Diamond and CBN is the use of chemical plating, electroplating and other methods on the surface of diamond,
- cubic boron nitride coated with a specific thickness of metal layer, in order to improve the binding ability of diamond,
- cubic boron nitride and binder, enhance the holding power of abrasive, cover up the abrasive itself defects,
- improve the strength of abrasive particles, thermal stability and chemical corrosion.
- At the same time, the metal coating can isolate the air, improve the heat dissipation, reduce the oxidation and thermal damage of diamond and cubic boron nitride,
- greatly extend the service life of the abrasive particles and improve the application performance of diamond tools and CBN tools.

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JCB Diamond

Product Introduction

★ Plating series products include titanium plating, electroless nickel plating, nickel plating, copper plating and other varieties.

★ Can be plated with various diamond and cubic boron nitride.

★ Mature and stable plating process to ensure dense and uniform coating, not only can accurately control the thickness of the coating and metal weight, but also can provide two kinds of metal composite plating products according to customer requirements.

★ The unique abrasive surface purification pretreatment process makes the binding force of diamond, cubic boron nitride and coating more firm.

★ Based on the dispersion and surface treatment experience of nanoscale powder, it ensures that 10μm fine coated products will not appear adhesion phenomenon.

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Available specifications

★ Nickel plating products conventional specifications are N30, N56, N60, etc., can be plated with different thickness coating according to customer requirements.

★ Copper plating, titanium plating products can be plated with different thickness coating according to customer requirements.

Application field

★ Titanium-plated diamond and cubic boron nitride are commonly used in metal and ceramic bonding products.

★ Electroless nickel diamond and cubic boron nitride are often used in resin bonds and electroplated products.

★ Electroplated nickel diamond and cubic boron nitride are often used in resin binder products.

★ Copper-plated diamond and cubic boron nitride are often used in metal binder products.

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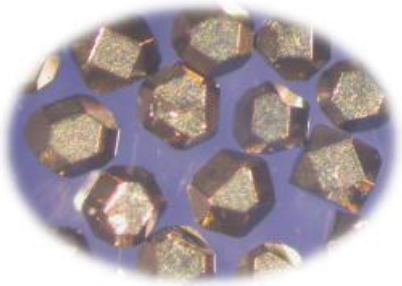
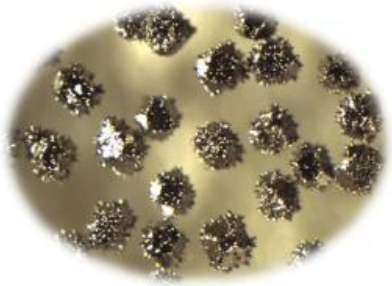
Product Specifications And Grades

JCB Diamond



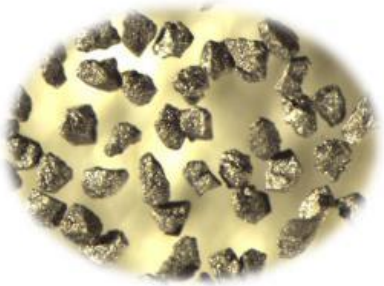
SD-Ti/CBN-Ti

Features: Titanium plated products make the wear particles stronger, more resistant to high temperature and chemical corrosion, the coating greatly strengthens the mechanical connection between the wear particles and the body, enhances the holding force of the wear particles and the body, and also prevents the abrasive oxidation and metal erosion, greatly prolonging the service life of the wear particles and improving the application performance of diamond tools and CBN tools.
Application: Widely used in ceramic binder and metal binder.
Specifications: Different thickness coating can be plated according to customer requirements; It can be coated with various particle size abrasives and micro-powders.



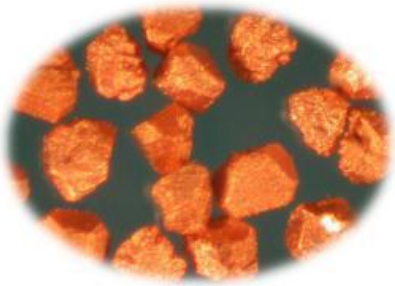
SD-ENi/CBN-ENi

Features: Nickel plating products, spiny nickel alloy plating, can prevent diamond erosion, can effectively improve the grip of the abrasive and the matrix, improve the working height of the abrasive, thereby improving the cutting efficiency, extend the service life of the tool and sharpness.
Application: Widely used in resin binder and electroplating binder.
Specifications: Different thickness coating can be plated according to customer requirements; It can be coated with various particle size abrasives and micro-powders.



SD-CNi/CBN-CNi

Features: Electroless nickel plating products can greatly hold the body and particle, extend the service life of the tool, and improve its sharpness.
Application: Widely used in resin bond.
Specifications: Different thickness coating can be plated according to customer requirements; It can be coated with various particle size abrasives and micro-powders.



SD-Cu/CBN-Cu

Features: Copper plated products can enhance the grip of diamond and matrix, improve heat dissipation, reduce heat loss, thereby extending the service life of the tool.
Application: Widely used in metal bonding agent.
Specifications: Different thickness coating can be plated according to customer requirements; It can be coated with various particle size abrasives and micro-powders.

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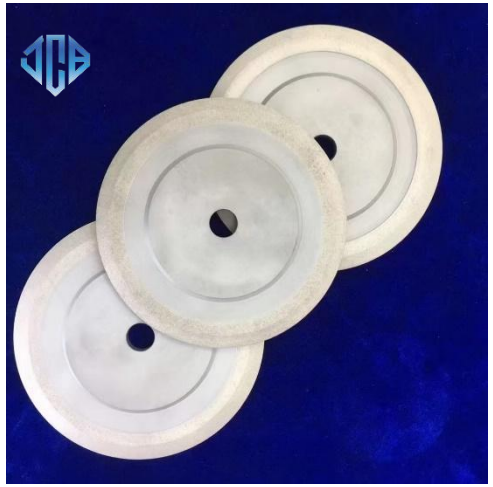
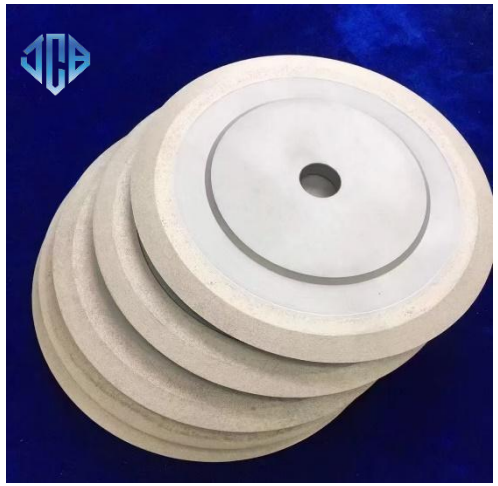
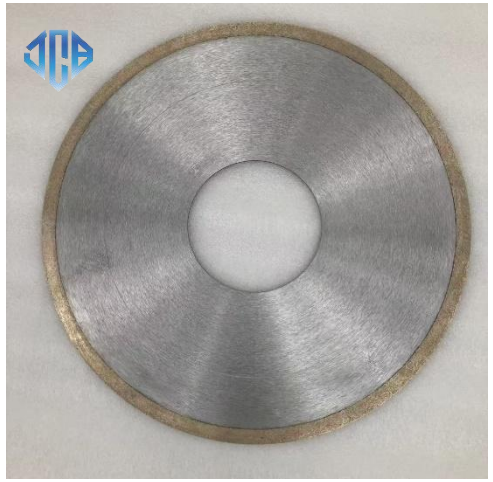
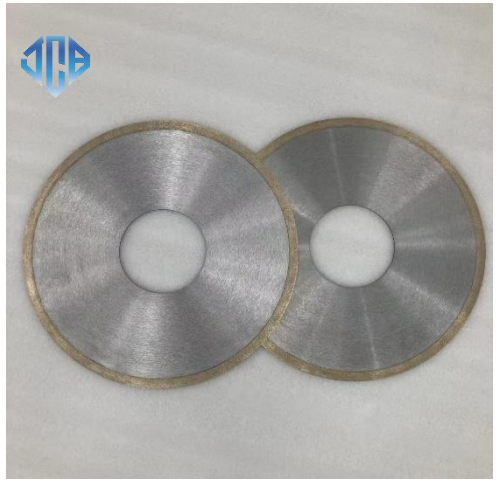
Application









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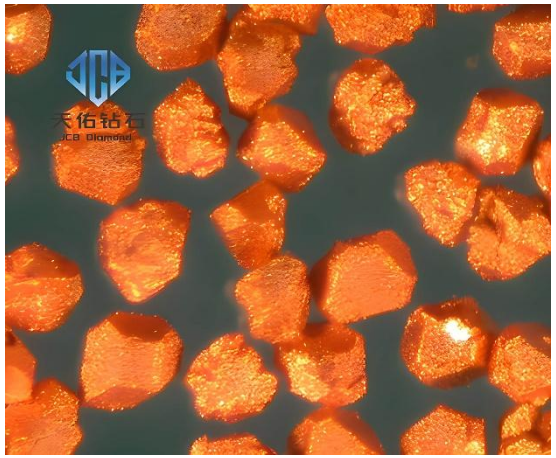
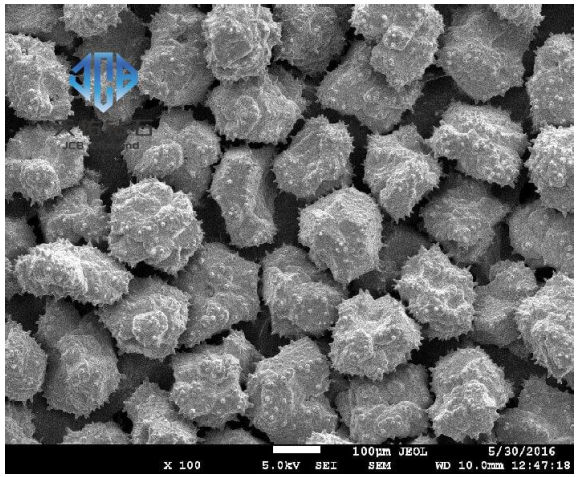
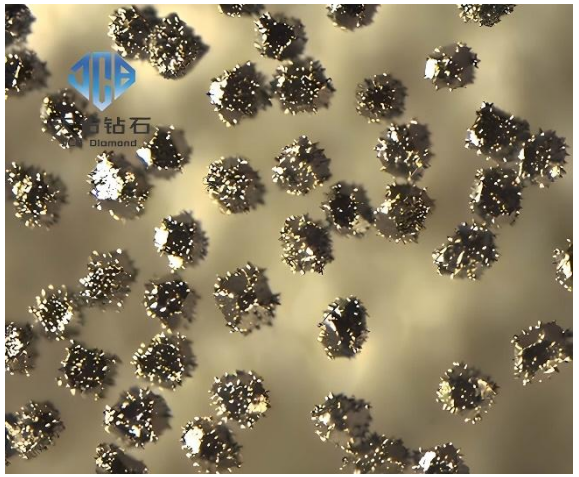
Product Photo







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Transportation Guarantee

Henan Tianyou Superhard Materials Co., Ltd. for each customer carefully prepared four transportation options, no matter what kind of transportation you choose, customer consulting consultants will give you advice to help you choose the suitable cost saving mode of transportation, we provide transportation options as follows:

- **Express transportation (DHL/ TNT/ FEDEX /EMS/ S.F.Express/UPS)**
- **Air transport**
- **Shipping**
- **Auto transportation**

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JCB Diamond

Why choose us

- We have been focusing on the abrasives and grinding tools industry. We have a very professional R&D, production and sales team.
  The company will ensure to provide customers with high-quality products and warm and thoughtful services.
- New series of products, in line with international industry standards, good customer experience.
- Provide particle size test reports to allow customers to more clearly grasp product quality and grading standards.
- Advanced office software and quotation system to ensure that customer inquiries are responded to quickly and accurately.
- Low daily operation and management costs.
- Short delivery time.

Henan JCB Superhard Material Co., Ltd

50+
Type

5-12 day
Delivery

40+
Exporting Countries