CT-S&T
www.zhongtuo.net

High Quality PCD/PCBN Blanks

With more than 20 years of experience in diamond tools materials, we have a very good relationship with world famous PCD & PCBN blanks' manufacturers and distribute all brands of PCD & PCBN blanks:

● ILJIN ●Adico ●Hyperion ● ELEMENT 6 ●TOMEI

PCD--Comparison Table

Hyperion (GE)	E6(DeBeers)	ILJIN	Adico	CHN-TOP	Remark
1200	CMX850	XUF II	UFS		Super Fine
1600	CTB002	CFW	FS	ZT005	Fine
1300	CTB010	CM CMW	MS	ZT10M ZT10W	Medium
1500	CTH025	CC CCW	CS	ZT025M ZT025W	Coarse
1800	CTM302	CXL II	CU	ZT302	Mix

PCBN--Comparison Table

Hyperion (GE)	E6(DeBeers)	ILJIN	Adico	Remark
BZN7000S	AMB90	SB100	ASN	Solid CBN
BZN6000 BZN9100 BZN9500 PM93 PM161	DBS900 DBW85 DCX650	SB95S2 SB95N	ATN10 ATN16 ATN20 ATN25	Cast Iron Powder Metallurgy
V35/V25/V20 HTP135/HPT130	DCC500 DCN450	SB700/SB650 SB630/SB600	ATN35/ATN40 ATN45/ATN50	Hardened Steel

CHN-TOP Blanks

Based on the good cooperation with foreign well-known enterprises and scientific research institutions, after years of digestion, introduction, absorption of foreign advanced technology and ideas, we have successfully developed a whole series of polycrystalline diamond blanks (PCD). And after a long time of testing and practical application, the comprehensive performance of the product (wear resistance, impact toughness, conductivity, stability, etc.) has approached the international level.

Name: Polycrystalline Diamond (PCD)

Brand: CT-S&T

Type: M series--machining nonferrous metals and nonmetal.

W series—machining nonmetal, especially for woodworking.

M series

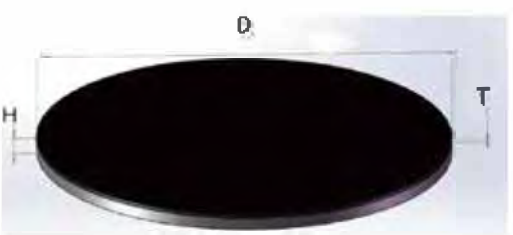
Model	Grit Size μm	Thickness mm	Diameter mm	Abrasive Resistance	Toughness	Conductivity	Performance	Manufacturing Objects
ZT005	5	1.6/2.0/3.2	47.0/54.0	Low	High	High	Fine grit, precision finishing, easy to WEDM	Aluminum alloy, copper alloy, noble metal, circuit board, etc.
ZT10M	10	1.6/2.0/3.2	47.0/54.0	Middle	Middle	Middle	Middle grit, wide range of machining	Low silicon aluminum alloy, copper alloy, graphite, circuit board, etc.
ZT025M	25	1.6/2.0/3.2	47.0/54.0	High	Middle	Low	Rough grit, long tool's life	High silicon aluminum alloy, graphite, plastic, composite, etc.
ZT302M	30/2	1.6/2.0/3.2	47.0/54.0	High	Middle	Low	Excellent wear resistance, edge strength, edge quality and good thermal stability	Application areas include high sil con aluminium alloys, hard cast irons and bi-metal

W series

Model	Grit Size μm	Thickness mm	Diameter mm	Abrasive resistance	Toughness	Conductivity	Performance	Manufacturing Objects
ZT10W	10	1.6/2.0/3.2	47.0/54.0	Middle	Middle	High	Middle grit, good combination property, easy to WEDM	Woodworking, circuit board, plastic, composite, etc
ZT025W	28	1.6/2.0/3.2	47.0/54.0	High	Middle	Middle	Rough grit, long tool's life, could be WEDM	Laminate floor, graphite, sintered ceramic and carbide, composite, etc.
ZT302W	30/2	1.6/2.0/3.2	47.0/54.0	High	Middle	Middle	Good edge quality and strength maintaining, exellent abrasive resistance and thermal stability, good EDM machining	>14% high silicon aluminium alloys, hard cast irons and bi-metal applications

PCD Blanks Size:

Diameter (mm)	Φ47.0/Φ54.0
Total Thickness (mm)	1.0 丨 1.2 丨 1.6 丨 2.0 丨 3.2
PDC Thickness (mm)	0.5±0.15



Order Examples:

Example 1: 360R54.0/1.6-ZT10W: 20pcs

Instruction: 360R (Round) 54.0 (Diameter) /1.6 (Thickness) -ZT10W (Model) : 20pcs (Quantity 20pcs)

Example 2: 60T5.0/2.0-ZT005M: 45pcs

Instruction: 60 (60 Degree) T (Triangle) 5.0 (Size 5.0mm) /2.0 (Thickness 2.0mm) -ZT005M (Model) : 45pcs (Quantity 45pcs)

Remark: R-Round; T-Triangle, L-Rectangle; S-Square

CT-S&T
CTSTC
www.zhongtuo.net

PCBN Blanks Application

Brand	Grade	CBN Content	Grit Size	Binder	Characteristics	Applications
Hyperion (GE)	BZN6000	~90%	2um	Metal	High abrasion resistance, Excellent edge quality and retention, Super impact strength, Fine surface finishes	Interrupted cutting, pearlitic gray cast iron, tool and die steel, hard facing alloys, finishing of Ni and Co based superalloys
	BZN9100	~85%	2um	TiN	Excellent impact resistance, Good chemical stability, High wear resistance	Continuous to interrupted cutting; Cast iron; Powder metallurgy; Tool steel milling.
	BZN9500	~85%	2-3um	TiN	Excellent impact resistance, Good chemical stability, High wear resistance. Improved wear and toughness compared to BZN9100	Continuous to interrupted cutting; Cast iron; Powder metallurgy; Cylinder liner boring; Gear turning; Milling of tool steel
	PM93	~83%	2-3um	TiN	Enhanced wear properties compared to 9500	Powder metallurgy applications where alloy content is lower; Continuous to medium interrupted cutting
	PM161	~65%	1-2um	TiN/TiC	Chemical stability, Impact resistant, provides excellent surface finish	Powder metallurgy applications where alloy content is higher; Exhaust and intake valve machining; Continuous cutting
	V35	70-75%	2-3um	TiN	Superior edge toughness, suitable for both roughing and finishing cuts	Mild to heavy interruption, valve seat machining, CV joint applications
	V25	~65%	2-3um	TiN	Superior edge toughness, good flank and crater wear resistance, suitable for both roughing and finishing cuts	Continuous to medium interruption, harden steels, CV join applications
	V20	~60%	2-3um	TiCN	Excellent balance of flank and crater wear resistance, good chipping resistance, suitable for both wet and dry conditions	Continuous to mild interrupted turning, hardened steel and cold work tool steel
	HPT135	~55%	1-4um	TiN/TiC	Excellent chemical and abrasion wear resistance, excellent surface finish, exceptionally long tool life, improved impact resistance	Continuous to slightly interrupted cutting; Case hardened steels; Through hardened steels
	HPT130	~40%	2-3um	TiCN	Superior chemical wear resistance, excellent surface finish	High speed continuous turning (finishing); Case hardened steels
Element 6 (De Beers)	AMB90	~90%	10um	ALN	Solid PCBN, extreme wear resistance	For turning and milling of grey and hard iron and heavy turning of harden steels
	AMK90	-90%	6um	ALN/ALB	Solid PCBN, extreme wear resistance	For similar application areas as AMB90, but providing higher wear resistance. Exhibits particularly high performance in abrasive work materials such as high chrome cast irons. Usable edges on both faces of insert
	ZAA	-90%	coarseness	ALN/ALB	Extreme wear resistance, grit size up to 100um	A value orientated grade for turning of grey cast iron, Approximately 90% CBN including components such as brake discs and pump bodies
	DBS900	~90%	4um		New binder provides excellent abrasion performance and impact resistance	Excellent in interrupted machining of grey and hard cast irons, hardened steel milling and in the machining of the majority of valve sear ring alloys
	DBW85	~85%	2um	ALWCoB	AlWCoB binder for extreme chip resistance	Grey iron, valve seat machining, powder metallurgy, Interrupted cutting
	DCX650	~65%	3um	TiN	Excellent balance of toughness, and crater and flank wear resistance	Interrupted turning of all common hardened steels, also used for plunge machining of valve seat rings
	DHA650	~50%		TiC/TiN		Medium to severe interrupted cutting, wet cutting and dry cutting. It also can be used for conventional and high speed machining
	DCC500 / DSC500(solid)	~65%	1.5um	TiC	Excellent abrasion resistance	Continuous and lightly interrupted of automotive steels, cold work steel, certain valve seat alloys, finishing abrasive high strength cast irons
	DCN4500	~45%	<1um	TiCN	Sub-um CBN grain size, highest resistance to crater wear, finest structures	Moderately interrupted hard turning and finish hard milling, high speed continuous turning, provides for sub-μm surface roughness
ILJIN	SB100	~93%	10um	AlTiN	Solid PCBN, extreme wear resistance	Rough machining of cast iron and powder metal alloys
	SB95S2	~95%	2um	Ti Alloy	Extreme wear resistance and high chipping resistance due to high content of CBN and fine	Machining most kinds of cast iron and powder metal alloy
	SB95N	~95%	3um	Ti Alloy	Extreme wear resistance due to high content of CBN and metal binder	Machining most kinds of cast iron
	SB700	~70%	2um	TiCN	High degree of toughness due to fine CBN and ceramic binder matrix	Heavy interrupted machining of hardened steel
	SB650	~65%	3um	TiN	Combination of wear resistance and thermal stability	High speed and interrupted machining of hardened steel
	SB630	~60%	1um	TiN	Combination of wear resistance and impact strength	General use in continuous and light interrupted machining of hardened steel
	SB600	~60%	2um	TiN	Combination of wear resistance and thermal properties	General use in continuous and light interrupted machining of hardened steel
Adico	ATN10	~95%	3um	Al/Ni/Co	Good abrasion performance	Gray cast iron cylinder boring, modular cast iron tutoring of hard cast iron turning
	ATN16	~90%	1um	Al/Ni/Co	Good abrasion performance and high impact resistance	Pearlitic cast irons, Powdered metal and sintered irons; Sintered tungsten carbide; Heat resistant alloys, Ni-base super alloys
	ATN25N	~75%	1um	TiN	Wide application	Interrupted cutting of hardened steel, finishing of super alloy and powdered metal
	ATN30C	~70%	3um	TiC	Equal characteristic	Interrupted hard turning
	ATN35N	~65%	1um	TiN	Good impact resistance	Roughing/fine finishing and high precision machining
	ATN40C	~60%	3um	TiC	Low CBN content	Hardened steels; Sintered alloys (Low HRC)
	ATN45N	~55%	1um	TiN	Low CBN content, good impact resistance	Cast irons (Gray, Nodular); High ferrite-content gray cast iron; Fully annealed die steel (diesel engine); Chilled iron rolls

PCD Blanks Application

Brand	Grade	Grit Size	Abrasive Resistance	Impact	Conductivity	Characteristics	Applications
Hyperion (GE)	1200P	1.7um	Low	High	High	High impact and surface finish	Titanium machining, low silicon aluminum machining (electronics, tablets, phones)
	1600P	4um	Low	High	High	Sharp cutting and good abrasion resistance	Copper, precious metals, wood composites, plastics, low silicon aluminum machining (electronics, automotive)
	1300P	6um	Middle	Middle	Middle	General purpose , fine surface finishes	≤14% silicon aluminum-automotive graphite, graphite composites, wood composites, green ceramics, copper alloy
	1500P	25um	High	Middle	Low	Longer tool life ,high abrasion resistance	>14% silicon aluminum alloy, metal matrix composites, sintered ceramics, carbides, bi-metal machining-aluminum/cast iron, finishing to roughing, sintered tungsten carbide (10-16%, CO)
	1800P	25/4um	High	Middle	Low	Highest abrasion resistance, bimodal grain structure for increased diamond percentage. content	Fiber glass, fiberboard, wood laminates, >14% silicon aluminum alloy, metal matrix composites, stone sawing, sintered tungsten carbide (10-16%, CO)
Element 6 (De Beers)	CMX850	≤1um	High	High	High	Sub-micron grain size , extreme edge sharpness	For milling and rough cutting of aluminum alloys where extreme chip resistance is required, also for machining titanium and composites
	CTX002	2um	Low	High	High	2um average grain size with increased cobalt for ease of processing	For profile routers and thread cutting tools, can also be used in wear part applications and complex tools where excessive processing is required
	CTB004	4um	Low	High	High	4um average grain size.CTB004's 4-mincron fine grain structure offers the addition to delivering the optimum balance between tool performance and resistance to abrasions and chips	Ideal for cutting of aluminum alloys where high surface finish is required alongside higher wear resistance
	CTB010	10um	Middle	Middle	Middle	Good balance of toughness and wear resistance is required	Roughing and finishing are performed with a single tool. Highly recommended for low to medium content AL alloys
	CTH025	25um	High	Low	Low	Optimum wear resistance for abrasive machining conditions	Machining of high silicon aluminum alloys, metal matrix composites (MMC), tungsten carbides and ceramics
	CTM302	30/2um	High	Low	Low	Excellent wear resistance, edge strength and edge quality	Application areas include MMC, high silicon aluminum alloys and bi-metal applications. Excellent abrasion resistance and good thermal stability
ILJIN	XUFII	<1um	Low	High	Middle	Mirror finishing	High impact resistance and easier tool fabrication
	CUFSII	2um	Low	High	Middle	Precision machining	Good surface finishing
	CFW	4um	Low	High	High	Tungsten bond, good EDM machining	Easy for EDM machining, high impact resistance
	CM	10um	Middle	Middle	Middle	General purpose , similar as GE 1300P	General purposes for AL and AL-Si alloy
	CMW	10um	Middle	Middle	High	Tungsten bond, good EDM machining	General purposes, easy wire cutting and good impact resistance
	CCW	25um	High	Low	High	Tungsten bond, good EDM machining	Good wear resistance with special binder and diamond bonding
	CXL	25um	High	Low	Low	High abrasive resistance	Excellent wear resistance. General purposes for high Si% Al alloy composite, bi-modal structure
	CXL-II	40um	Super High	Low	Low	High abrasive resistance with good conductivity	Special designed for superior wear resistance, bi-modal structure
Adico	UFS	<1um	Low	High	High	High precision machining	Excellent impact resistance and easier tool fabrication
	FS	2~4um	Low	High	High	High precision machining	Si-AL alloys(for higher Si-content) Plastics, Fiberglass
	MS	8~10um	Middle	Middle	Middle	General purpose	Metal working (reaming, milling)
	MX	8~10um	Middle	Middle	High	Higher tenacity	Woodworking particle board, MDF, Cement board ceramic coated wooden-floor
	CS	25~35um	High	Low	Low	Good abrasive resistance	For special purpose with higher diamond content
	CU	25-35um	Super igh	Low	Low	Extremely abrasive resistance	Carbon-fiber composite body, PCB, CFRP, SiC reinforced Al-alloys