



PCD IPOL

ILJIN Polycrystalline Diamond

- Best Solution for Longer Tool Life
 - Excellent Thermal & Chemical Stability
 - Extreme Wear & Abrasion Resistance
- 

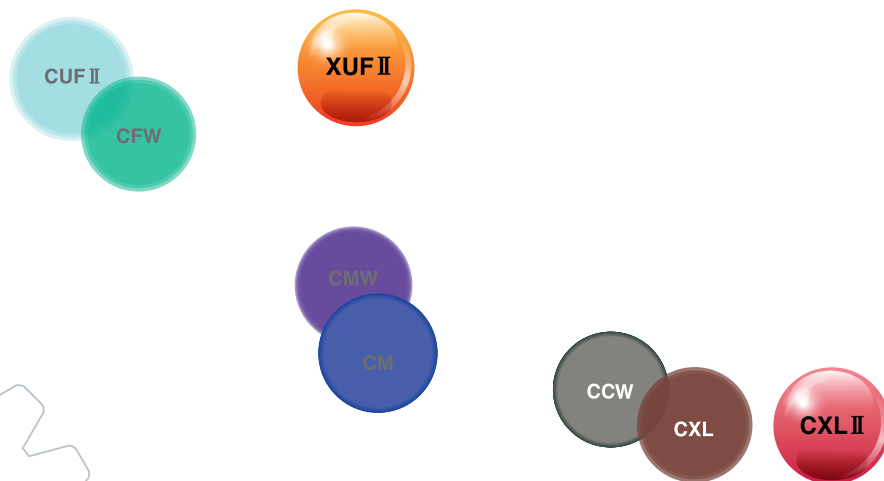
I POL

ILJIN Polycrystalline Diamond

Grade

Type	Standard						Premium	
Grade	CUF II	CFW	CM	CMW	CCW	CXL	XUF II	CXL II
Grain size [μm]	2	4	10	10	25	25	<1	40
Diamond [vol.%]	90	90	92	90	90	95	92	95
Characteristics	Very good surface finishing	Good surface finishing	General purposes	General purpose, Easy wire cutting and Good impact resistance	Good wear resistance with special binder and diamond bonding	Excellent wear resistance with strong diamond bonding	Excellent impact resistance and Easier tool fabrication	Specially designed for superior wear resistance

**Impact
resistance**



wear resistance

ILJIN Diamond Co., Ltd. produces a wide variety of PCD products

The above schematic diagram explains different characteristics of available grades to help you choose what is the best for your application. All processes from raw materials to final shipping of finished products are tightly controlled.

Selection



Innovation is our Tradition
Quality is our Product
People is our Asset

R

Shape

R : Round L : Rectangle
S : Segment T : Triangle

360

Angle or Width

Angle(deg.) : Round,
Triangle
Radius : Segment
Width(mm) : Rectangle

60.0

Diameter or Length

Diameter(mm) : Round,
Segment
Length(mm) : Triangle,
Rectangle

3.2

Thickness

Total thickness

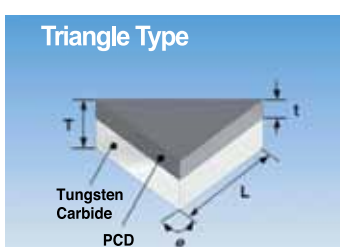
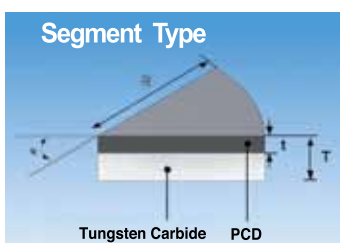
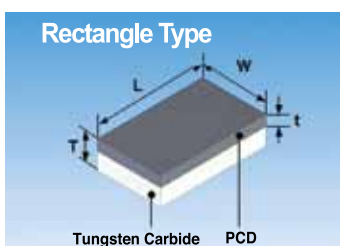
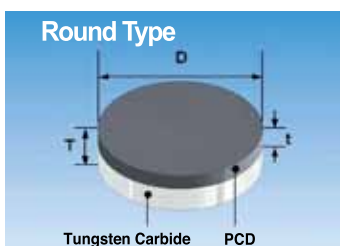
UP

Surface

No mark : Polished
U : Unpolished

*Various Shapes of Cut Pieces Available.

*Diameter in 75mm Available for CM Grade.



Nomenclature	°(Degree)	D(mm)	T(mm)	t(mm)	Grade
R 360/60.0 -T	360	60.0	1.6	0.5	All
R 360/13.0 -T			2.0		
			2.4		
			3.2		
			4.8		

Nomenclature	L(mm)	W(mm)	T(mm)	t(mm)	Grade
L 4.0/2.0 -T	4.0	2.0	1.6	0.5	All
L 6.0/2.0 -T	6.0	2.0	2.0		
L 7.0/2.0 -T	7.0	2.0	2.4		
L 4.0/3.0 -T	4.0	3.0	3.2		
L 6.0/3.0 -T	6.0	3.0	4.8		

Nomenclature	°(Degree)	R(mm)	T(mm)	t(mm)	Grade
S 60/3.8 -T	60.0	3.8	1.6	0.5	All
S 60/6.4 -T	60.0	6.4	2.0		
S 90/3.9 -T	90.0	3.9	2.4		
S 90/6.5 -T	90.0	6.5	3.2		
S 180/13.2 -T	180.0	13.2	4.8		

Nomenclature	°(Degree)	L(mm)	T(mm)	t(mm)	Grade
T 60/4.0 -T	60.0	4.0	1.6	0.5	All
T 60/5.0 -T	60.0	5.0	2.0		
T 60/7.0 -T	60.0	7.0	2.4		
T 90/4.0 -T	90.0	4.0	3.2		
T 90/5.0 -T	90.0	5.0	4.8		

PCD Turning Application

ROUGHING: >0.64mm (0.025”) DOC FINISHING: <0.64mm (0.025”) DOC

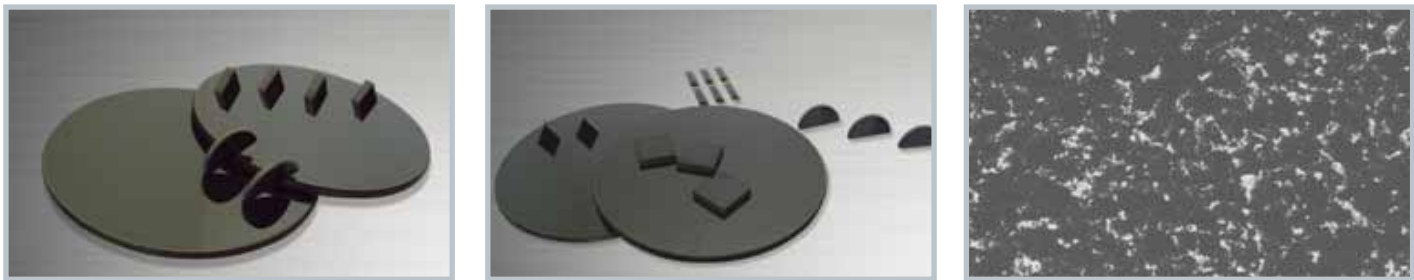
WORKPIECE MATERIAL		CUTTING SPEED		FEED RATE		CUTTING SPEED		FEED RATE		TOOL MATERIAL	EDGE PREP	COOLANT
		m/min	ft/min	mm/rev	in/rev	m/min	ft/min	mm/rev	in/rev			
NON FERROUS	Al - Si Alloy (<12%Si)	600-1800	2000-6000	0.13-0.25	0.005-0.010	600-2440	2000-8000	0.08-0.20	0.003-0.008	CM / CCW	NONE	DRY/WET
	Al - Si Alloy (>12%Si)	300-600	1000-2000	0.13-0.25	0.005-0.010	300-915	1000-3000	0.08-0.20	0.003-0.008	CCW / CXL / CXLII	NONE	DRY/WET
	MMC(-SiC Particles)	240-450	800-1500	0.15-0.40	0.006-0.015	365-730	1200-2400	0.10-0.25	0.004-0.010	CXL / CXLII	NONE	DRY/WET
	MMC (-AL2O3Particles)	240-450	800-1500	0.15-0.40	0.006-0.015	300-600	1000-2000	0.10-0.25	0.004-0.010	CXL / CXLII	NONE	DRY/WET
	Cu-Alloy	240-365	800-1200	0.13-0.25	0.005-0.010	300-600	1000-2000	0.10-0.25	0.004-0.010	CM / CUFII	NONE	DRY/WET
	Ti-Alloy	15-60	50-200	0.13-0.30	0.005-0.012	60-180	200-600	0.08-0.30	0.003-0.006	XUFII	NONE	WET
	WC <16% Cobalt	XX	XX	XX	XX	15-30	50-100	0.10-0.25	0.004-0.010	CXL / CXLII	NONE / HONE	DRY/WET
	WC >16% Cobalt	XX	XX	XX	XX	20-45	75-150	0.10-0.25	0.004-0.010	SB95N ※ Refer to PCBN (IBON)	NONE / HONE	DRY/WET

PCD Milling Application

ROUGHING: >0.64mm (0.025”) DOC FINISHING: <0.64mm (0.025”) DOC

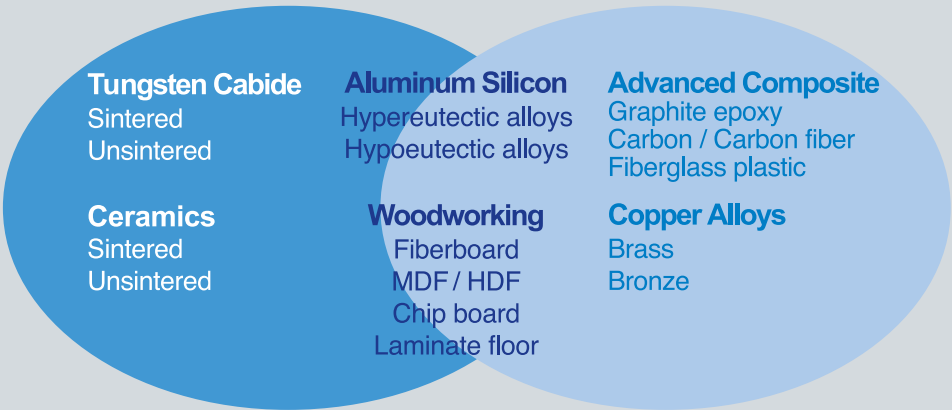
WORKPIECE MATERIAL		SURFACE SPEED		FEED PER TOOTH		SURFACE SPEED		FEED PER TOOTH		TOOL MATERIAL	EDGE PREP	COOLANT
		m/min	ft/min	mm/tooth	in/tooth	m/min	ft/min	mm/tooth	in/tooth			
NON FERROUS	Al - Si Alloy (<12%Si)	250-1800	800-6000	0.10-0.20	0.004-0.008	300-3000	1000-10000	0.08-0.15	0.003-0.006	CCW	NONE	DRY/WET
	Al - Si Alloy (>12%Si)	300-750	1000-2500	0.10-0.20	0.004-0.008	300-1000	1000-3300	0.08-0.15	0.003-0.006	CXL / CXLII	NONE	DRY/WET
	Composite Graphite Epoxy	120-240	400-800	0.10-0.20	0.004-0.008	150-300	500-1000	0.08-0.15	0.003-0.006	CXL / CXLII	NONE	DRY
	Bi-Metal Al/ Cast Iron	XX	XX	XX	XX	250-300	800-1000	0.10-0.15	0.004-0.006	CXLII	LIGHT HONE	WET
	Metal Matrix Composites	300-430	1000-1400	0.13-0.25	0.005-0.010	425-600	1400-2000	0.13-0.25	0.005-0.010	CXL / CXLII	NONE	DRY/WET

Products of ILJIN Diamond

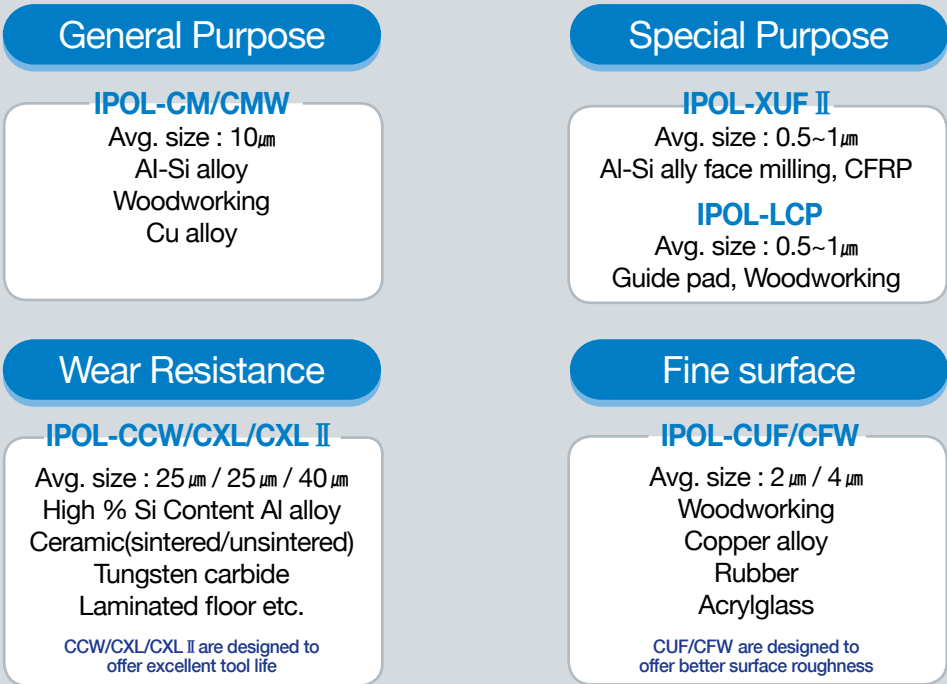


Our goal is to make the absolute standard of cutting tool materials

IPOL Application (Non-ferrous Application)



Selection of IPOL Grades



IPOL Property (Non-ferrous Application)



※ As diamond grain size increases from fine to coarse

ILJIN DIAMOND

Quality Control

□ Implementing Strict Quality Management System

□ Certificated by Quality Assurance Standard (ISO9001)
And Environmental Management Standard (ISO14001)

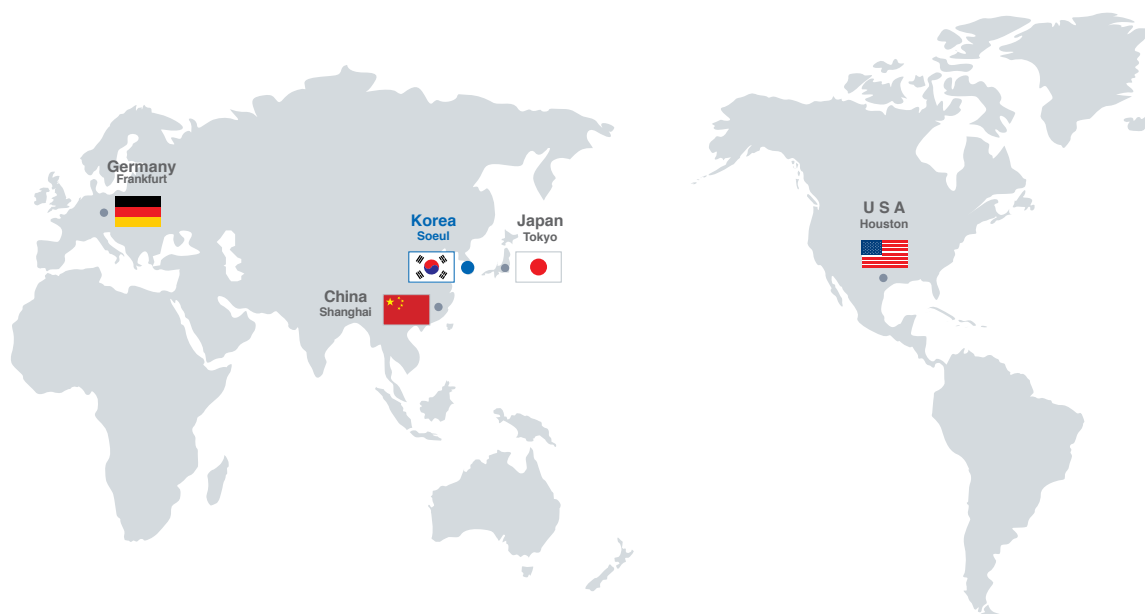


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