CBN & PCD Tools

C1~C34

C

MEGACOAT CBN

Extended Tool Life | Improved Stability | High Speed Cutting

Kyocera's innovative CBN tools.

CBN Variation and Features Ref. Page A16.

Various edge preparations are added in high performance MECAGOAT CBN inserts.

Identification System (Turning Insert)

C N G A 12 04 04 S01225 ME

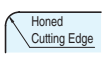
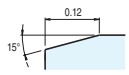
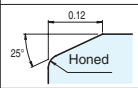
"Turning Indexable Inserts Identification System" Refer Page B2

Insert Type	Description	Edge Prep.	Manufacture's Option	Length of cutting edge	No. of Edges	re-grinding
Negative	CNGA120404S01225	S01225	No Indication	Long	1	Possible
	CNGA120404S01225ME	S01225	ME	Short (Small Edge)	2	Not Recommended
	CNGA120404S00545MEP	S00545	MEP		2	
	CNGA120404S01225SE	S01225	SE		1	
	CNMN120404S02020	S02020	No Indication (Only KBN900)	Long	plural edge	Possible
Positive	CPGB090304T00815	T00815	No Indication	Long	1	Possible
	CPGB090304T00815ME	T00815	ME	Short (Small Edge)	2	Not Recommended
	CPGB090304S01225MES	S01225	MES		2	
	CPGB090304T00815SE	T00815	SE		1	

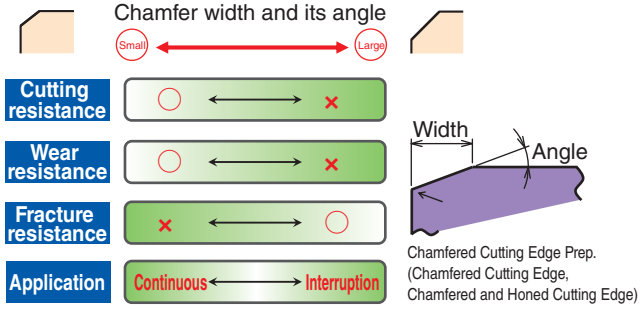
●About re-grinding
1) Regrinding is possible for inserts without any indication in manufacturer's option. Regrinding can not be available depending on the edge condition.
2) Regrinding is not recommended for inserts with manufacturer's symbol like "ME" or "SE"

Note 1) Ref. page **B3** for insert color.

●How to identify edge preparation

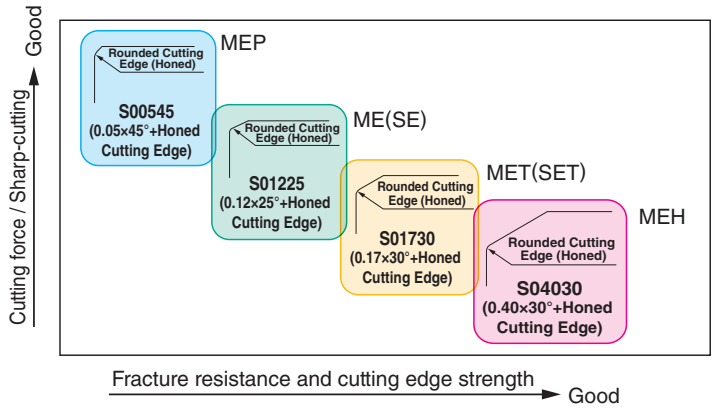
Edge Prep.				
Symbol	Cutting Edge Spec.	Example		Shape
E	Honed Cutting Edge	E008	R0.08mm Honed	
T	Chamfered Cutting Edge	T01215	0.12mm × 15° Chamfered Cutting Edge	
S	Chamfered Cutting Edge+Honed Cutting Edge	S01225	0.12mm × 25° Chamfered +Honed Cutting Edge	

●Features of chamfer width and angle



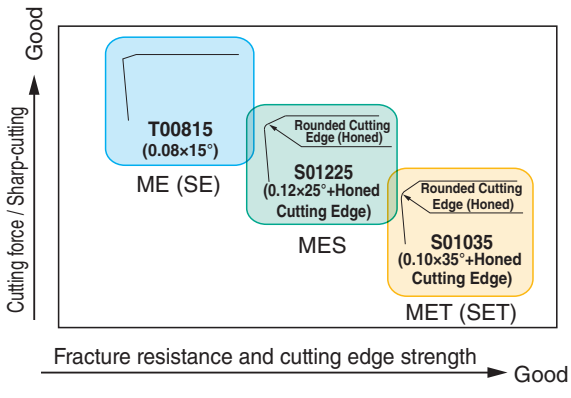
Chamfered Cutting Edge Prep. (Chamfered Cutting Edge, Chamfered and Honed Cutting Edge)

(1) Standard cutting edge prep. of negative inserts



Manufacture's Option	Edge Prep.		Application and Features
MEP	S00545	0.05mm×45°+Honed Cutting Edge	High speed, continuous cutting Excellent crater wear resistance
ME	S01225	0.12mm×25°+Honed Cutting Edge	General purpose
MET	S01730	0.17mm×30°+Honed Cutting Edge	Superior fracture resistance
MEH	S04030	0.40mm×30°+Honed Cutting Edge	Interrupted high feed cutting Prevention of flaking

(2) Standard cutting edge prep. of positive inserts

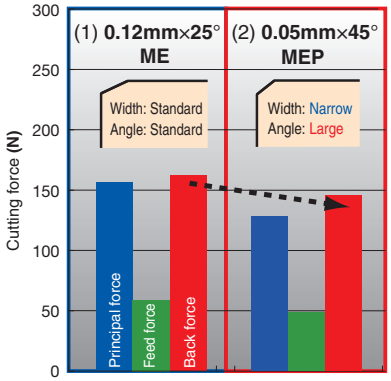


Manufacture's Option	Edge Prep.		Application and Features
ME	T00815	0.08mm×15°	Chamfered Sharp-cutting oriented, less burring
MES	S01225	0.12mm×25°+Honed Cutting Edge	General purpose
MET	S01035	0.10mm×35°+Honed Cutting Edge	Interrupted cutting Stable cutting Oriented

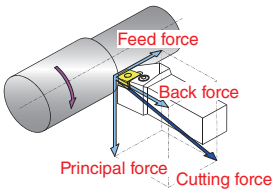
■ Negative Inserts, Features of new edge prep.

(1) MEP (High speed / continuous cutting)

●Cutting Force Comparison

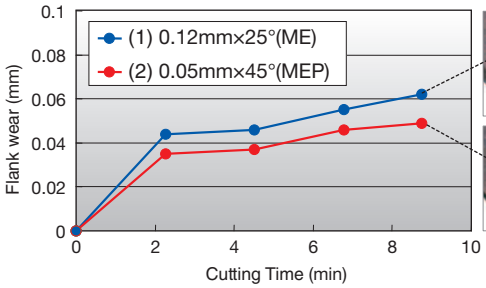


DCLNR2525M-12
CNGA120408type (KBN05M)
SCM415H Carburizing hardened (55~60HRC)
Vc=150m/min, ap=0.2mm
f=0.15mm/rev, DRY

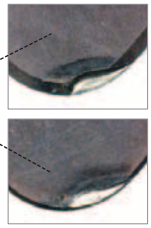


●Wear comparison

SCM415H Carburizing hardened (55~60HRC)
Vc = 150m/min, ap=0.2mm
f = 0.15mm/rev, DRY



Rake face



MEP performs lower cutting force than ME

⇨Sharp cutting!

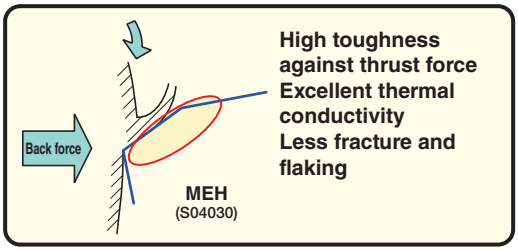
MEP prevents the Flank wear, compared to ME

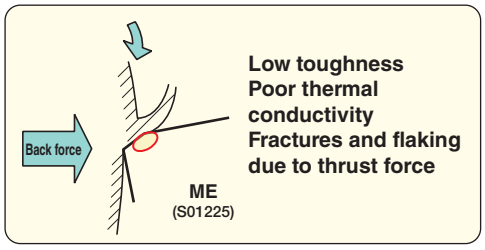
⇨Prevents crater wear!

(2) MEH (Interruption / High feed cutting)

●Toughness and Controls flaking

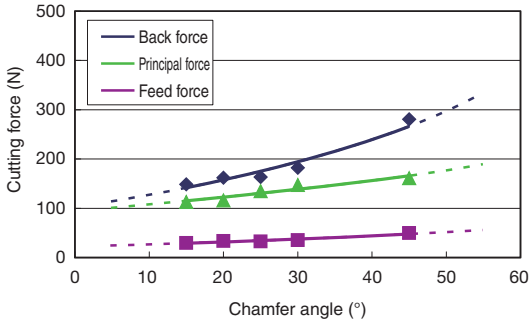
Prevention of flaking



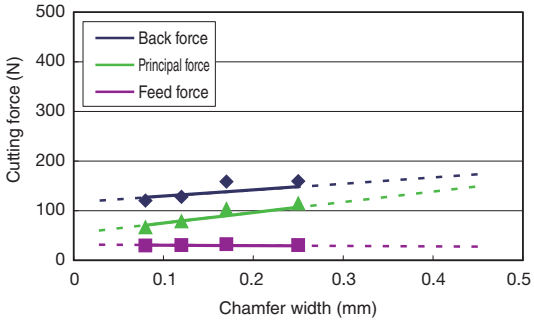


●Cutting force and chamfered width / angle

Cutting Conditions **Chamfer width**: 0.12mm
Vc=100m/min ap=0.1mm f=0.25mm/rev



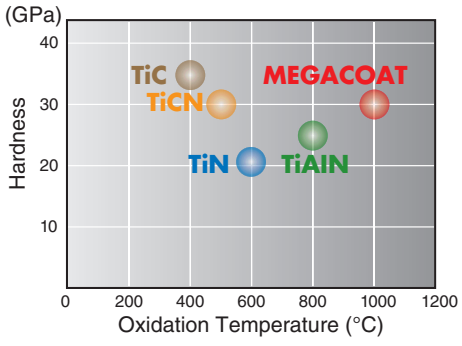
Cutting Conditions **Chamfer angle**: 25°
Vc=100m/min ap=0.1mm f=0.25mm/rev



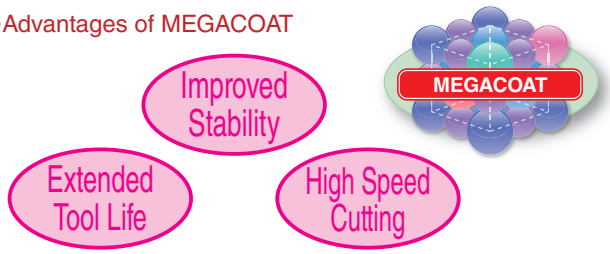
Cutting force is influenced by chamfered angle more than chamfered width.
Though enlarging chamfered angle is more effective for fracture resistance improvement than changing chamfered width, the cutting force increases as well. Please refer to the graph for details.

■ MEGACOAT CBN

●Properties of PVD coated layer



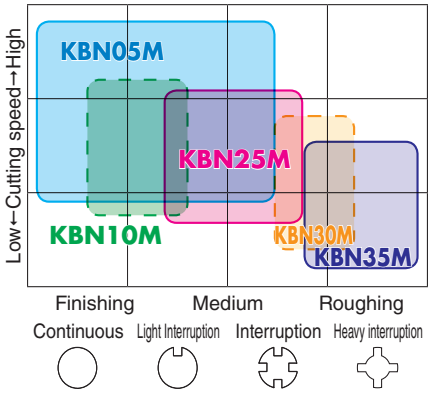
●Advantages of MEGACOAT



- Long tool life and stable cutting due to superior heat-resistance and hardness
- Stability improvement through prevention of crater wear (oxidation, diffusional wear)
- High thermal stability and surface smoothness provide excellent surface finish

Application Map

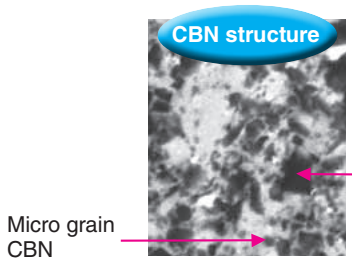
●Hard materials



●Hybrid Grain Structure (KBN05M)

Mixed structure of micro grain CBN and coarse grain CBN

CBN that possess High hardness, toughness and thermal resistance characteristics

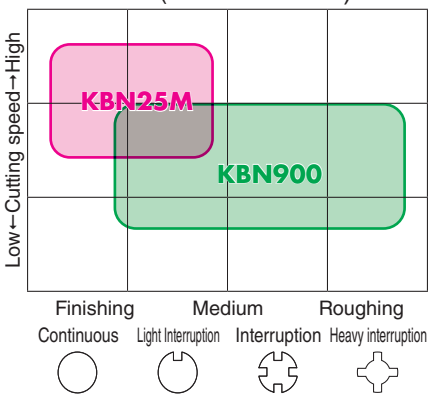


Heat diffusion is promoted by coarse grain CBN ⇨ **High thermal conductivity**

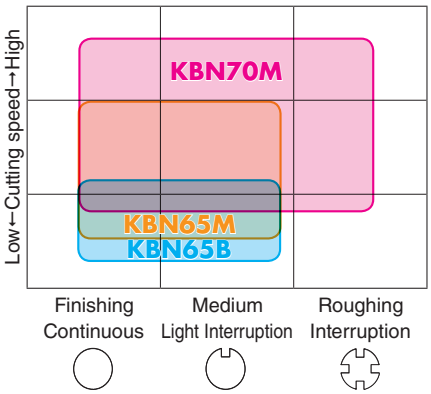
KBN05M is 1st recommended grade for a wide range of application from continuous (high speed finishing) to interrupted cutting.

KBN25M: High stability for general cutting
KBN30M: High stability in interrupted cutting
KBN35M: Honeycomb structure CBN
Superior fracture resistance in heavy interrupted cutting

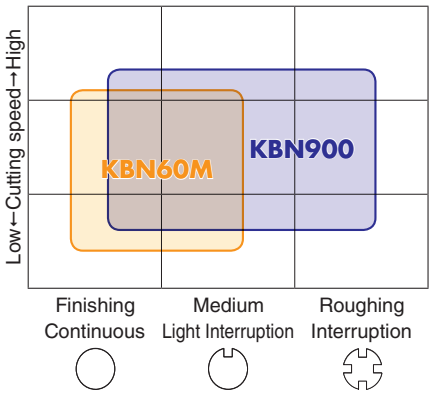
●Roll Materials (Chilled Cast Iron)



●Sintered Steel



●Cast Iron



Recommended Cutting Conditions

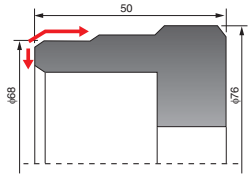
Workpiece Material	Hardness	Applications		Recommended Insert Grade	Cutting Conditions		
					Vc (m/min)	ap (mm)	f (mm/rev)
Heat Treated Steel	Over 55HRC	General Finishing	Continuous~Interruption	KBN05M	100 - **150** - 200	0.05 - **0.3** - 0.5	0.05 - **0.08** - 0.1
		High Efficient Stable Cutting	Light Interruption~Interruption	KBN25M	80 - **120** - 160	0.05 - **0.3** - 0.5	0.05 - **0.08** - 0.1
		Interruption (Small ap)	Interruption~Heavy interruption	KBN35M	60 - **100** - 150	0.05 - **0.2** - 0.4	0.05 - **0.08** - 0.1
		Heavy Cutting	Continuous~Interruption	KBN900	70 - **90** - 110	0.5 - **1.0** - 2.0	0.05 - **0.1** - 0.2
	Under 55HRC	Finishing	Continuous	*PT600M	60 - **80** - 120	0.2 - **0.5** - 0.7	0.05 - **0.1** - 0.15
Gray Cast Iron	Under 250HB	Finishing	Continuous~Light interruption	KBN60M	300 - **600** - 800	0.05 - **0.2** - 0.5	0.03 - **0.05** - 0.1
		High Efficient Finishing	Continuous~Light interruption	KBN900	500 - **900** - 1200	0.1 - **0.5** - 1.0	0.05 - **0.1** - 0.2
		Heavy Cutting	Continuous~Interruption	KBN900	500 - **700** - 900	0.5 - **1.5** - 3.0	0.1 - **0.3** - 0.5
Roll Materials (Chilled Cast Iron)	Over 55HRC	Finishing	Continuous~Interruption	KBN25M	80 - **120** - 160	0.05 - **0.3** - 0.5	0.05 - **0.08** - 0.1
		Heavy Cutting	Continuous~Interruption	KBN900	70 - **90** - 110	0.3 - **0.7** - 1.0	0.05 - **0.1** - 0.15
Sintered Steel (Iron based)	Under 35HRC	Finishing	Continuous~Light interruption	KBN65M	50 - **150** - 200	0.05 - **0.2** - 0.3	0.05 - **0.1** - 0.2
	Over 35HRC	Finishing	Continuous~Interruption	KBN70M	100 - **200** - 250	0.05 - **0.2** - 0.3	0.05 - **0.1** - 0.2

*PT600M : MEGACOAT on Al_2O_3+TiC ceramic

Case Studies

SCr420H (58HRC)

- Gear
- External and Face machining and Chamfering
- Vc=130 m/min
- ap=0.6 mm
- f=0.12mm/rev
- WET
- CNGA120408S01225ME (KBN05M)



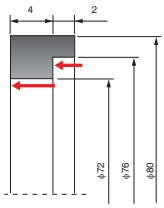
KBN05M	300 pcs/edge
Competitor C	200 pcs/edge

- KBN05M achieved 1.5 times longer tool life than Competitor C.
  ⇨Its longer tool life contributes to cost-cutting.

(Evaluation by the user)

SCM415 (55HRC)

- Stator
- Boring
- Vc=170 m/min
- ap=0.4 mm
- f=0.1mm/rev
- WET
- CNGA120408S01225ME (KBN05M)



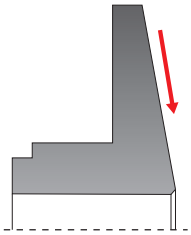
KBN05M	600 pcs/edge
Competitor D	300 pcs/edge

- KBN05M achieved twise longer tool life than competitor D.
  ⇨Its longer tool life contributes to cost-cutting.

(Evaluation by the user)

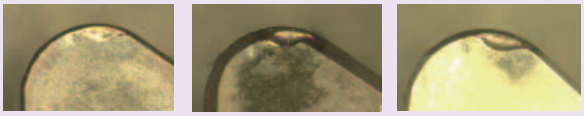
SCr420H (58HRC)

- Pulley
- Facing (Continuous)
- Vc=120 m/min
- ap=0.15~0.2 mm
- f=0.24mm/rev
- WET
- DNGA120408S00545MEP (KBN05M)



KBN05M-MEP (Edge Preparation : 0.05×45°)	150 pcs/edge
KBN05M-ME (Edge Preparation : 0.12×25°)	100 pcs/edge
Competitor E	100 pcs/edge

- Tool life of KBN05M-ME type (Edge prep.: 0.12×25° Chamfered + R honed) is same as competitor E.'s.
- KBN05M-MEP (Edge prep.: 0.05×45° Chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.

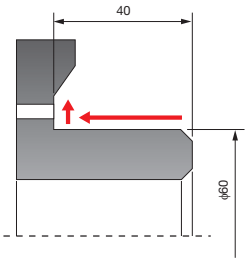


KBN05M-MEP　KBN05M-ME　Competitor E

(Evaluation by the user)

SCr20 (61~65HRC)

- Gear
- External turning and facing (Interrupted)
- Vc=120 m/min
- ap=0.15 mm
- f=0.1~0.15mm/rev (External)
- WET
- CNGA120408S04030MEH (KBN05M)



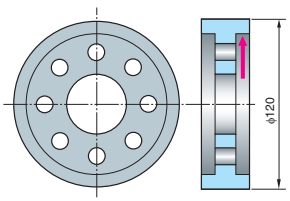
KBN05M-MEH (Edge Preparation : 0.40×30°)	150 pcs/edge
Competitor F	100 pcs/edge

- Compared to competitor. F, KBN05M-MEH type (Edge prep.: 0.40×30° Chamfered + R-honed) achieved 1.5 times longer tool life.
- No chipping in interrupted cutting, and improved productivity (Comp. F's cutting edge got many chipping.)
- Feed rate could be increased from 0.15 to 0.25 mm/rev in facing.
  ⇨Achieved cycle time and cost reduction.

(Evaluation by the user)

SCM420 (60HRC)

- Gear Parts
- Interrupted face machining
- Vc=90m/min
- ap=0.5mm
- f=0.12mm/rev
- Wet⇨Dry
- CNGA120412S01225ME (KBN25M)



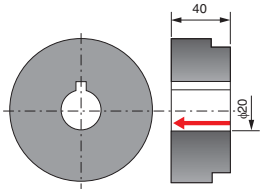
KBN25M	70 pcs/edge
Competitor G (CBN tool)	30 pcs/edge (Unstable)

KBN25M improved tool life up to 70 pieces/edge than is two times more than competitor's G (CBN tool). Also, KBN25M has increased its tool life up to 250 pieces/edge by hanging from wet machining to dry machining.

(Evaluation by the user)

SCM420 (58HRC)

- Sleeve
- Internal machining (Heavy interrupted)
- Vc=100 m/min
- ap=0.5 mm
- f=0.1mm/rev
- WET
- TPGB110308S01035MET (KBN35M)



KBN35M	115 pcs/edge
Competitor H	100 pcs/edge

- KBN35M achieved 15% Longer tool life in heavy interrupted machining compared with Competitor H.
- Furthermore it still keeps the insert in a good condition and so provides stable machining result.
  ⇨Its longer tool life and capability of providing stable result can contribute to cost-cutting and improved efficiency in machining.

(Evaluation by the user)

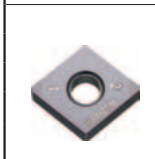
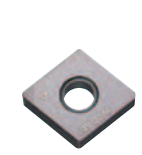
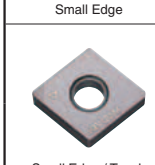
(mm)

Description	A	T	φd
CNGA 1204_ CNGM 1204_	12.70	4.76	5.16

80° Rhombic / Negative

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

		Ref. Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)	D8 F60 F64
	Gray Cast Iron (Without Scale)	
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	
	Hard Materials (Chip Control)	
	Sintered Steel	

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M
 Multi Edge / With Wiper Edge	CNGA 120404S01215MEW	CNGA 120404MEW	S01215	0.4	2.6	2		●	●	●	●	●	●	●			
	CNGA 120408S01215MEW	CNGA 120408MEW	S01215	0.8	2.5	2		●	●	●	●	●	●	●			
	CNGA 120412S01215MEW	CNGA 120412MEW	S01215	1.2	2.5	2		●	●	●	●	●	●	●			
NEW  Multi Edge / Finishing	CNGA 120404S00545MEP	-	S00545	0.4	2.5	2				●							
	CNGA 120408S00545MEP	-	S00545	0.8	2.6	2				●							
	CNGA 120412S00545MEP	-	S00545	1.2	2.5	2				●							
	CNGA 120416S00545MEP	-	S00545	1.6	3.4	2				●							
	CNGA 120420S00545MEP	-	S00545	2.0	3.4	2				●							
	CNGA 120424S00545MEP	-	S00545	2.4	3.3	2				●							
 Multi Edge	CNGA 120402S01225ME	CNGA 120402ME	S01225	0.2	2.6	2		●	●	●	●	●		●	●		
	CNGA 120404S01225ME	CNGA 120404ME	S01225	0.4	2.5	2		●	●	●	●	●	●	●	●		
	CNGA 120408S01225ME	CNGA 120408ME	S01225	0.8	2.6	2		●	●	●	●	●	●	●	●		
	CNGA 120412S01225ME	CNGA 120412ME	S01225	1.2	2.5	2		●	●	●	●	●	●	●	●		
NEW	CNGA 120416S01225ME	-	S01225	1.6	3.4	2				●							
	CNGA 120420S01225ME	-	S01225	2.0	3.4	2				●							
	CNGA 120424S01225ME	-	S01225	2.4	3.3	2				●							
	CNGA 120404T01215ME	CNGA 120404ME	T01215	0.4	2.5	2										●	●
	CNGA 120408T01215ME	CNGA 120408ME	T01215	0.8	2.6	2										●	●
	CNGA 120412T01215ME	CNGA 120412ME	T01215	1.2	2.5	2										●	●
 Multi Edge / Tough	CNGA 120404S01730MET	CNGA 120404ME-T	S01730	0.4	2.5	2			●	●	●	●	●	●			
	CNGA 120408S01730MET	CNGA 120408ME-T	S01730	0.8	2.6	2			●	●	●	●	●	●			
	CNGA 120412S01730MET	CNGA 120412ME-T	S01730	1.2	2.5	2			●	●	●	●	●	●			
NEW	CNGA 120416S01730MET	-	S01730	1.6	3.4	2				●							
	CNGA 120420S01730MET	-	S01730	2.0	3.4	2				●							
	CNGA 120424S01730MET	-	S01730	2.4	3.3	2				●							
NEW  Multi Edge / Interruption	CNGA 120404S04030MEH	-	S04030	0.4	2.5	2				●							
	CNGA 120408S04030MEH	-	S04030	0.8	2.6	2				●							
	CNGA 120412S04030MEH	-	S04030	1.2	2.5	2				●							
	CNGA 120416S04030MEH	-	S04030	1.6	3.4	2				●							
	CNGA 120420S04030MEH	-	S04030	2.0	3.4	2				●							
	CNGA 120424S04030MEH	-	S04030	2.4	3.3	2				●							
 Small Edge	CNGA 120402S01225SE	CNGA 120402SE	S01225	0.2	2.6	1			●		●	●					
	CNGA 120404S01225SE	CNGA 120404SE	S01225	0.4	2.5	1		●	●		●	●					
	CNGA 120408S01225SE	CNGA 120408SE	S01225	0.8	2.6	1		●	●		●	●					
	CNGA 120412S01225SE	CNGA 120412SE	S01225	1.2	2.5	1					●	●					
	CNGA 120404T01215SE	CNGA 120404SE	T01215	0.4	2.5	1	●										
	CNGA 120408T01215SE	CNGA 120408SE	T01215	0.8	2.6	1	●										
	CNGA 120412T01215SE	CNGA 120412SE	T01215	1.2	2.5	1	●										
 Small Edge / Tough	CNGA 120404S01730SET	CNGA 120404SE-T	S01730	0.4	2.6	1			●			●					
	CNGA 120408S01730SET	CNGA 120408SE-T	S01730	0.8	2.6	1			●			●					

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

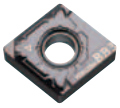
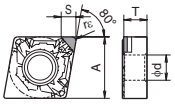
80° Rhombic / Negative

(mm)

Description	A	T	ϕd
CNGA 1204_	12.70	4.76	5.16
CNGM 1204_			

Edge Prep.		
Symbol	Cutting Edge Spec.	Example
E	Honed Cutting Edge	E008 R0.08mm Honed
T	Chamfered Cutting Edge	T01215 0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225 0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	○ ◕
	Hard Materials (Chip Control)	● ◕
	Sintered Steel	

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
 Chip Control		CNGM 120404S00825BB1	CNGM 120404BB1		0.4	1.8							●						
		120408S00825BB1	120408BB1	S00825	0.8	2.0	1						●						
		120412S00825BB1	120412BB1		1.2	2.2							●						
		CNGM 120404S01225BB2	CNGM 120404BB2		0.4	2.2							●						D8
		120408S01225BB2	120408BB2	S01225	0.8	2.4	1						●						F60
		120412S01225BB2	120412BB2		1.2	2.6							●						F64
		CNGM 120404S01625BB3	CNGM 120404BB3		0.4	2.6						●	●						
		120408S01625BB3	120408BB3	S01625	0.8	2.8	1					●	●						
		120412S01625BB3	120412BB3		1.2	3.0							●						

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

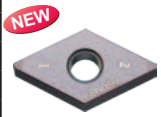
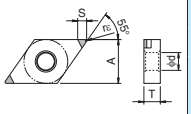
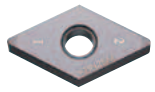
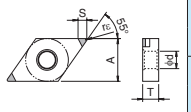
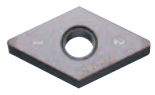
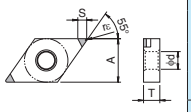
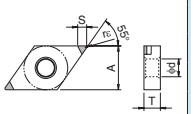
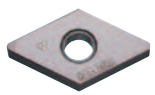
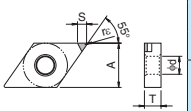
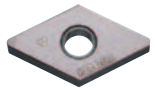
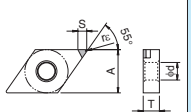
(mm)

Description	A	T	φd
DNGA 1504_	12.70	4.76	5.16
1506_		6.35	
DNGM 1504_	12.70	4.76	5.16

55° Rhombic / Negative

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	◕
H	Hard Materials (Roughing)	✠
	Hard Materials (Finishing)	○ ◔ ● ○ ◕
	Hard Materials (Chip Control)	● ◕
	Sintered Steel	◕ ✠

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
NEW  Multi Edge / Finishing		DNGA 150404S00545MEP	-	S00545	0.4	2.3	2				●								
		150408S00545MEP	-		0.8	1.9					●								
		150412S00545MEP	-		1.2	1.9					●								
		150416S00545MEP	-		1.6	3.8					●								
		150420S00545MEP	-		2.0	3.5					●								
		150424S00545MEP	-		2.4	3.1					●								
 Multi Edge		DNGA 150401S01225ME	DNGA 150401ME	S01225	0.1	2.2	2				●	●	●			●			D10
		150402S01225ME	150402ME		0.2	2.5			●	●	●	●	●			●			D11
		150404S01225ME	150404ME		0.4	2.3			●	●	●	●	●	●	●	●			F61
		150408S01225ME	150408ME		0.8	1.9			●	●	●	●	●	●	●	●			F66
		150412S01225ME	150412ME		1.2	1.9					●	●	●	●	●				
		NEW 150416S01225ME	-		1.6	3.8					●								
		150420S01225ME	-		2.0	3.5					●								
		150424S01225ME	-		2.4	3.1					●								
		DNGA 150404T01215ME	DNGA 150404ME	T01215	0.4	2.3	2										●	●	
		150408T01215ME	150408ME		0.8	1.9											●	●	
		150412T01215ME	150412ME		1.2	1.9												●	
		DNGA 150604S01225ME	DNGA 150604ME	S01225	0.4	2.3	2			●	●	●	●	●					
		150608S01225ME	150608ME		0.8	1.9				●	●	●	●	●	●				D10
		150612S01225ME	150612ME		1.2	1.9					●		●	●	●				D11
Multi Edge		DNGA 150604T01215ME	DNGA 150604ME	T01215	0.4	2.3	2											●	F61
		150608T01215ME	150608ME		0.8	1.9											●	●	
 Multi Edge / Tough		DNGA 150404S01730MET	DNGA 150404ME-T	S01730	0.4	2.3	2			●	●	●	●	●	●				
		150408S01730MET	150408ME-T		0.8	1.9				●	●	●	●	●	●				D10
		150412S01730MET	150412ME-T		1.2	1.9				●	●	●	●	●	●				D11
		NEW 150416S01730MET	-		1.6	3.8					●								F61
		150420S01730MET	-		2.0	3.5					●								F66
		150424S01730MET	-		2.4	3.1					●								
		DNGA 150604S01730MET	DNGA 150604ME-T	S01730	0.4	2.3	2			●	●	●	●	●	●				D10
		150608S01730MET	150608ME-T		0.8	1.9				●	●	●	●	●	●				D11
		150612S01730MET	150612ME-T		1.2	1.9				●	●	●	●	●	●				F61
NEW  Multi Edge / Interruption		DNGA 150404S04030MEH	-	S04030	0.4	2.3	2				●								
		150408S04030MEH	-		0.8	1.9					●								
		150412S04030MEH	-		1.2	1.9					●								
		150416S04030MEH	-		1.6	3.8					●								
		150420S04030MEH	-		2.0	3.5					●								D10
		150424S04030MEH	-		2.4	3.1					●								D11
 Small Edge		DNGA 150401S01225SE	DNGA 150401SE	S01225	0.1	2.2	1						●						
		150402S01225SE	150402SE		0.2	2.5			●	●			●						F61
		150404S01225SE	150404SE		0.4	2.3			●	●		●	●						F66
		150408S01225SE	150408SE		0.8	1.9				●		●	●						
		150412S01225SE	150412SE		1.2	1.9							●						
		DNGA 150404T01215SE	DNGA 150404SE	T01215	0.4	2.3	1	●											
		150408T01215SE	150408SE		0.8	1.9		●											
		DNGA 150604S01225SE	DNGA 150604SE	S01225	0.4	2.3	1					●	●						D10
		150608S01225SE	150608SE		0.8	1.9			●			●	●						D11
		150612S01225SE	150612SE		1.2	1.9							●						F61
 Small Edge / Tough		DNGA 150404S01730SET	DNGA 150404SE-T	S01730	0.4	2.3	1			●									D10
		150408S01730SET	150408SE-T		0.8	1.9				●									D11
																			F61
																			F66

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

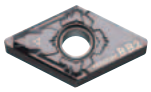
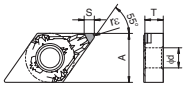
55° Rhombic / Negative

(mm)

Description	A	T	φd
DNGA 1504_	12.70	4.76	5.16
1506_		6.35	
DNGM 1504_	12.70	4.76	5.16

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	○ ●
	Hard Materials (Chip Control)	● ●
	Sintered Steel	

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
 Chip Control		DNGM 150404S00825BB1	DNGM 150404BB1		0.4	1.6						●	●						
		150408S00825BB1	150408BB1	S00825	0.8	1.6	1					●	●						
		150412S00825BB1	150412BB1		1.2	1.8							●						D10
		DNGM 150404S01225BB2	DNGM 150404BB2		0.4	1.8							●						D11
		150408S01225BB2	150408BB2	S01225	0.8	2.0	1					●	●						F61
		150412S01225BB2	150412BB2		1.2	2.1							●						F66
		DNGM 150404S01625BB3	DNGM 150404BB3		0.4	2.2						●	●						
		150408S01625BB3	150408BB3	S01625	0.8	2.5	1					●	●						
		150412S01625BB3	150412BB3		1.2	2.5							●						

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

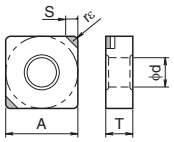
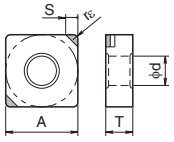
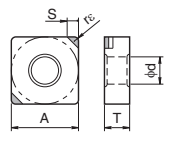
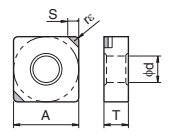
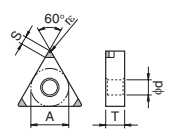
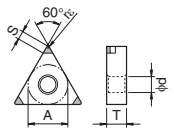
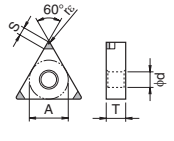
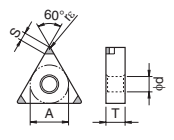
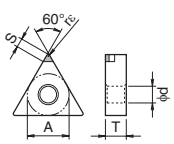
90° Square / 60° Triangle / Negative

(mm)

Description	A	T	ϕd
SNGA 1204_	12.70	4.76	5.16
TNGA 1604_	9.525	4.76	3.81

Edge Prep.		
Symbol	Cutting Edge Spec.	Example
E	Honed Cutting Edge	E008 R0.08mm Honed
T	Chamfered Cutting Edge	T01215 0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225 0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	●
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	◕
H	Hard Materials (Roughing)	✣ ✣
	Hard Materials (Finishing)	○ ◔ ● ○ ◕
	Hard Materials (Chip Control)	● ◕
	Sintered Steel	◕ ✣

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
NEW  Multi Edge / Finishing		SNGA 120408S00545MEP	-	S00545	0.8	1.8	2				●								
		SNGA 120412S00545MEP	-		1.2	2.2					●								
 Multi Edge		SNGA 120404S01225ME	SNGA 120404ME	S01225	0.4	1.8	2			●	●	●	●						
		SNGA 120408S01225ME	120408ME		0.8	1.8			●	●	●	●	●	●	●	●			
		SNGA 120404T01215ME	SNGA 120404ME	T01215	0.4	1.8	2											●	
		SNGA 120408T01215ME	120408ME		0.8	1.8											●	●	
		SNGA 120412T01215ME	120412ME		1.2	1.8												●	D12
 Multi Edge / Tough		SNGA 120404S01730MET	SNGA 120404ME-T	S01730	0.4	1.8	2			●		●							D13
		SNGA 120408S01730MET	120408ME-T		0.8	1.8				●	●		●	●	●				
		SNGA 120412S01730MET	120412ME-T		1.2	2.2				●	●		●	●	●				
NEW  Multi Edge / Interruption		SNGA 120408S04030MEH	-	S04030	0.8	1.8	2				●								
		SNGA 120412S04030MEH	-		1.2	2.2					●								
NEW  Multi Edge / Finishing		TNGA 160404S00545MEP	-	S00545	0.4	2.4	3				●								
		TNGA 160408S00545MEP	-		0.8	2.4					●								
		TNGA 160412S00545MEP	-		1.2	2.1					●								
 Multi Edge		TNGA 160401S01225ME	TNGA 160401ME	S01225	0.1	2.6	3				●	●	●						
		TNGA 160402S01225ME	160402ME		0.2	2.5			●	●	●	●	●		●	●			
		TNGA 160404S01225ME	160404ME		0.4	2.4			●	●	●	●	●	●	●	●			
		TNGA 160408S01225ME	160408ME		0.8	2.4			●	●	●	●	●	●	●	●			
		TNGA 160412S01225ME	160412ME		1.2	2.1			●	●	●	●	●	●	●	●			
		TNGA 160404T01215ME	TNGA 160404ME	T01215	0.4	2.4	3										●	●	
		TNGA 160408T01215ME	160408ME		0.8	2.4											●	●	
		TNGA 160412T01215ME	160412ME		1.2	2.1											●	●	D14
 Multi Edge / Tough		TNGA 160404S01730MET	TNGA 160404ME-T	S01730	0.4	2.4	3			●	●	●	●	●	●				D15
		TNGA 160408S01730MET	160408ME-T		0.8	2.4				●	●	●	●	●	●				F61
		TNGA 160412S01730MET	160412ME-T		1.2	2.1				●	●		●	●	●				F68
NEW  Multi Edge / Interruption		TNGA 160404S04030MEH	-	S04030	0.4	2.4	3				●								
		TNGA 160408S04030MEH	-		0.8	2.4					●								
		TNGA 160412S04030MEH	-		1.2	2.1					●								
 Small Edge		TNGA 160401S01225SE	TNGA 160401SE	S01225	0.1	2.6	1			●			●						
		TNGA 160402S01225SE	160402SE		0.2	2.9			●	●		●	●						
		TNGA 160404S01225SE	160404SE		0.4	2.7			●	●		●	●						
		TNGA 160408S01225SE	160408SE		0.8	2.4			●	●		●	●						
		TNGA 160404T01215SE	TNGA 160404SE	T01215	0.4	2.4	1	□											
		TNGA 160408T01215SE	160408SE		0.8	2.4		□											
		TNGA 160412T01215SE	160412SE		1.2	2.2		●											

CBN & PCD Tools are sold in 1 piece boxes

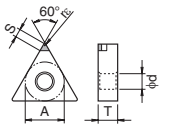
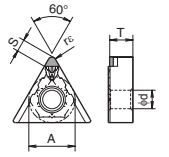
(mm)

Description	A	T	φd
TNGA 1604_	9.525	4.76	3.81
TNGM 1604_			

■ 60° Triangle / Negative

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

		Ref. Page for Applicable Toolholders
K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	
	Hard Materials (Chip Control)	
	Sintered Steel	

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
 Small Edge / Tough		TNGA 160404S01730SET	TNGA 160404SE-T	S01730	0.4	2.7	1			●			●						D14
		TNGA 160408S01730SET	TNGA 160408SE-T		0.8	2.4				●			●						D15
 Chip Control		TNGM 160404S00825BB1	TNGM 160404BB1	S00825	0.4	1.5	1					●	●						D14
		TNGM 160408S00825BB1	TNGM 160408BB1		0.8	1.7						●	●						D15
		TNGM 160412S00825BB1	TNGM 160412BB1		1.2	1.9							●						F61
		TNGM 160404S01225BB2	TNGM 160404BB2	S01225	0.4	1.9	1						●						F68
		TNGM 160408S01225BB2	TNGM 160408BB2		0.8	2.1							●						
		TNGM 160412S01225BB2	TNGM 160412BB2		1.2	2.2							●						
		TNGM 160404S01625BB3	TNGM 160404BB3	S01625	0.4	2.2	1					●	●						
		TNGM 160408S01625BB3	TNGM 160408BB3		0.8	2.4							●						
		TNGM 160412S01625BB3	TNGM 160412BB3		1.2	2.6							●						

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

(mm)

Description	A	T	ϕd
VNGA 1604_	9.525	4.76	3.81
WNGA 0804_	12.70	4.76	5.16

35° Rhombic / 80° Trigon / Negative

Edge Prep.		
Symbol	Cutting Edge Spec.	Example
E	Honed Cutting Edge	E008 R0.08mm Honed
T	Chamfered Cutting Edge	T01215 0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225 0.12mm X 25° Chamfered and Honed Cutting Edge

		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M
K	Gray Cast Iron (With Scale)											
	Gray Cast Iron (Without Scale)									●		
	Nodular Cast Iron (With Scale)	◕										
H	Hard Materials (Roughing)							✣	✣			
	Hard Materials (Finishing)		○	◔	●	○	◕					
	Hard Materials (Chip Control)											
	Sintered Steel										◕	✣

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	Ref. Page for Applicable Toolholders
NEW Multi Edge / Finishing	VNGA 160404S00545MEP	-	S00545	0.4	2.0	2	D16 D17 D18
	VNGA 160408S00545MEP	-		0.8	1.8		
Multi Edge	VNGA 160401S01225ME	VNGA 160401ME	S01225	0.1	2.6	2	
	VNGA 160402S01225ME	VNGA 160402ME		0.2	2.3		
	VNGA 160404S01225ME	VNGA 160404ME		0.4	2.0		
	VNGA 160408S01225ME	VNGA 160408ME		0.8	1.8		
	VNGA 160404T01215ME	VNGA 160404ME	T01215	0.4	2.0	2	
	VNGA 160408T01215ME	VNGA 160408ME		0.8	1.8		
Multi Edge / Tough	VNGA 160404S01730MET	VNGA 160404ME-T	S01730	0.4	2.0	2	
	VNGA 160408S01730MET	VNGA 160408ME-T		0.8	1.8		
NEW Multi Edge / Interruption	VNGA 160404S04030MEH	-	S04030	0.4	2.0	2	
	VNGA 160408S04030MEH	-		0.8	1.8		
Small Edge	VNGA 160401S01225SE	VNGA 160401SE	S01225	0.1	2.6	1	
	VNGA 160402S01225SE	VNGA 160402SE		0.2	2.3		
	VNGA 160404S01225SE	VNGA 160404SE		0.4	1.9		
	VNGA 160408S01225SE	VNGA 160408SE		0.8	2.7		
	VNGA 160404T01215SE	VNGA 160404SE	T01215	0.4	1.9	1	
	VNGA 160408T01215SE	VNGA 160408SE		0.8	2.7		
Small Edge / Tough	VNGA 160404S01730SET	VNGA 160404SE-T	S01730	0.4	1.9	1	
	VNGA 160408S01730SET	VNGA 160408SE-T		0.8	2.7		
Multi Edge	WNGA 080404S01225ME	WNGA 080404ME	S01225	0.4	2.0	3	D20 F70
	WNGA 080408S01225ME	WNGA 080408ME		0.8	2.6		
	WNGA 080412S01225ME	WNGA 080412ME		1.2	2.5		
	WNGA 080404T01215ME	WNGA 080404ME	T01215	0.4	2.0	3	
	WNGA 080408T01215ME	WNGA 080408ME		0.8	2.6		
	WNGA 080412T01215ME	WNGA 080412ME		1.2	2.5		
Multi Edge / Tough	WNGA 080404S01730MET	WNGA 080404ME-T	S01730	0.4	2.0	3	
	WNGA 080408S01730MET	WNGA 080408ME-T		0.8	2.6		
	WNGA 080412S01730MET	WNGA 080412ME-T		1.2	2.5		
Small Edge	WNGA 080404S01225SE	WNGA 080404SE	S01225	0.4	2.0	1	
	WNGA 080408S01225SE	WNGA 080408SE		0.8	1.9		
Small Edge / Tough	WNGA 080404S01730SET	WNGA 080404SE-T	S01730	0.4	2.0	1	

CBN & PCD Tools are sold in 1 piece boxes

Negative (Solid)

(mm)

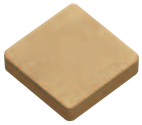
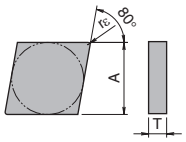
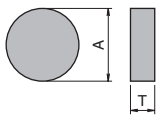
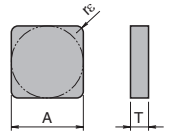
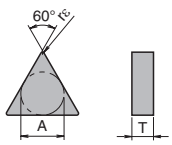
Description		A	T
CNMN	0903_	9.525	3.18
	1204_	12.70	4.76
RNMN	0903_	9.525	3.18
	1203_	12.70	3.18
	1204_		4.76

(mm)

Description		A	T
SNMN	0903_	9.525	3.18
	1203_	12.70	3.18
	1204_		4.76
TNMN	1103_	6.35	3.18
	1604_	9.525	4.76

Edge Prep.		
Symbol	Cutting Edge Spec.	Example
E	Honed Cutting Edge	E008 R0.08mm Honed
T	Chamfered Cutting Edge	T01215 0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225 0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	✖
	Gray Cast Iron (Without Scale)	✖
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	
	Hard Materials (Finishing)	●
	Hard Materials (Chip Control)	
	Sintered Steel	

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	No. of Edges	PVD Coated CBN KBN900	Ref. Page for Applicable Toolholders
 Solid		CNMN 090308S02020	CNMN 090308	S02020	0.8	4	●	D32
		090312S02020	090312		1.2		●	F73
		CNMN 120408S02020	CNMN 120408		0.8		●	
		120412S02020	120412	S02020	1.2		●	D22
		120416S02020	120416		1.6		●	
 Solid		RNMN 090300S02020	RNMN 090300	S02020	-	Depends on ap	●	D33
		RNMN 120300S02020	RNMN 120300	S02020			●	
		RNMN 120400S02020	RNMN 120400	S02020			●	D27 D33
 Solid		SNMN 090308S02020	SNMN 090308	S02020	0.8	8	●	
		090312S02020	090312		1.2		●	D34
		SNMN 120308S02020	SNMN 120308	S02020	0.8		●	D35
		120312S02020	120312		1.2		●	
		SNMN 120408S02020	SNMN 120408	S02020	0.8		●	D25
		120412S02020	120412		1.2		●	D34
		120416S02020	120416		1.6		●	D35
		120420S02020	120420		2.0		●	F71
 Solid		TNMN 110308S02020	TNMN 110308	S02020	0.8	6	●	D36 F73
		TNMN 160408S02020	TNMN 160408	S02020	0.8		●	
		160412S02020	160412		1.2		●	D26
		160416S02020	160416		1.6		●	

● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

How to read pages of “Turning Inserts” ➡ B13

80° Rhombic / Positive

(mm)

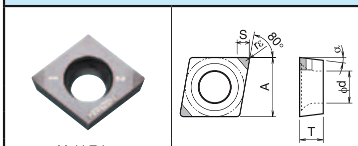
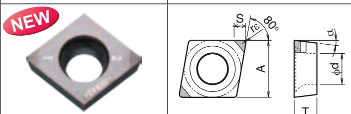
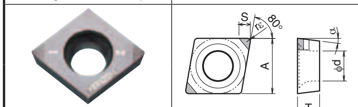
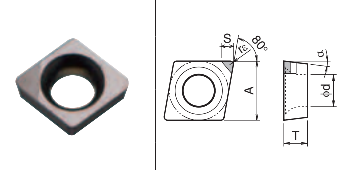
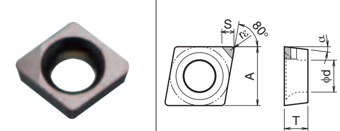
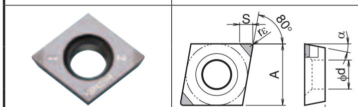
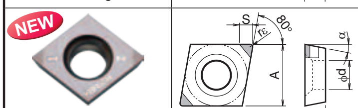
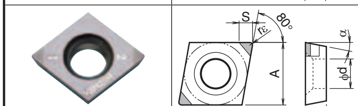
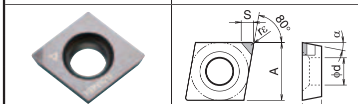
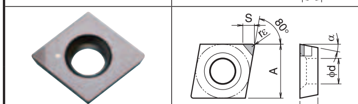
Description	A	T	ϕd	α
CCMW 0301_	3.5	1.4	1.9	7°
0401_	4.3	1.8	2.3	
0602_	6.35	2.38	2.8	
09T3_	9.525	3.97	4.4	

(mm)

Description	A	T	ϕd	α
CPGB 0802_	7.94	2.38	3.5	11°
0903_	9.525	3.18	4.5	

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

	Work Material	KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M
K	Gray Cast Iron (With Scale)											
	Gray Cast Iron (Without Scale)									●		
	Nodular Cast Iron (With Scale)											
H	Hard Materials (Roughing)							⌘ (outline)	⌘			
	Hard Materials (Finishing)		○	◒ (outline)	●	○	◒					
	Hard Materials (Chip Control)											
	Sintered Steel										◒	⌘

Insert	Description	(Previous Description)	Edge Prep.	rε	S	No. of Edges	KBN65B (CBN)	KBN510 (CBN)	KBN525 (CBN)	KBN05M (MEGACOAT CBN)	KBN10M (MEGACOAT CBN)	KBN25M (MEGACOAT CBN)	KBN30M (MEGACOAT CBN)	KBN35M (MEGACOAT CBN)	KBN60M (MEGACOAT CBN)	KBN65M (MEGACOAT CBN)	KBN70M (MEGACOAT CBN)	Ref. Page for Applicable Toolholders
 Multi Edge	CCMW 060202T00815ME	CCMW 060202ME	T00815	0.2	2.0	2		●	●	●	●	●		●				Ref. to the table below C15
	060204T00815ME	060204ME	T00815	0.4	1.9	2		●	●	●	●	●		●	●			
	060208T00815ME	060208ME	T00815	0.8	1.8	2		●		●	●	●		●	●			
	CCMW 09T302T00815ME	CCMW 09T302ME	T00815	0.2	2.0	2		●	●	●	●	●		●	●			
	09T304T00815ME	09T304ME	T00815	0.4	1.9	2		●	●	●	●	●	●	●	●	●	●	
	09T308T00815ME	09T308ME	T00815	0.8	1.8	2		●	●	●	●	●	●	●	●	●	●	
 Multi edge / General Purpose	CCMW 060204S01225MES	-	S01225	0.4	1.9	2				●								
	060208S01225MES	-	S01225	0.8	1.8	2				●								
	CCMW 09T304S01225MES	-	S01225	0.4	1.9	2				●								
	09T308S01225MES	-	S01225	0.8	1.8	2				●								
 Multi Edge / Tough	CCMW 09T304S01035MET	CCMW 09T304ME-T	S01035	0.4	1.9	2			●	●	●	●		●				
	09T308S01035MET	09T308ME-T	S01035	0.8	1.8	2				●	●	●		●				
 Small Edge	CCMW 030102T00815SE	CCMW 030102SE	T00815	0.2	1.4	1		●	●		●	●						F37
	030104T00815SE	030104SE	T00815	0.4	1.4	1		●	●		●	●						F37
	CCMW 040102T00815SE	CCMW 040102SE	T00815	0.2	1.4	1		●	●		●	●						F37
	040104T00815SE	040104SE	T00815	0.4	1.4	1		●	●		●	●						F37
	CCMW 060202T00815SE	CCMW 060202SE	T00815	0.2	2.0	1		●	●									Ref. to the table below C15
	060204T00815SE	060204SE	T00815	0.4	1.9	1		●	●			●						Ref. to the table below C15
	CCMW 09T302T00815SE	CCMW 09T302SE	T00815	0.2	2.0	1		●	●		●							Ref. to the table below C15
	09T304T00815SE	09T304SE	T00815	0.4	1.9	1		●	●		●							Ref. to the table below C15
 Small Edge / Tough	CCMW 030102S01035SET	CCMW 030102SE-T	S01035	0.2	1.4	1					●	●						F37
	030104S01035SET	030104SE-T	S01035	0.4	1.4	1			●		●	●						F37
	CCMW 040102S01035SET	CCMW 040102SE-T	S01035	0.2	1.4	1					●	●						F37
	040104S01035SET	040104SE-T	S01035	0.4	1.4	1			●		●	●						F37
	CCMW 060204S01035SET	CCMW 060204SE-T	S01035	0.4	1.9	1			●									Ref. to the table below C15
	CCMW 09T304S01035SET	CCMW 09T304SE-T	S01035	0.4	1.9	1			●									Ref. to the table below C15
 Multi Edge	CPGB 080204T00815ME	CPGB 080204ME	T00815	0.4	1.9	2		●	●	●	●	●		●				F39
	CPGB 090302T00815ME	CPGB 090302ME	T00815	0.2	1.9	2		●	●	●	●	●						F39
	090304T00815ME	090304ME	T00815	0.4	1.9	2		●	●	●	●	●		●	●			F39
 Multi edge / General Purpose	CPGB 090304S01225MES	-	S01225	0.4	1.9	2				●								F39
	090308S01225MES	-	S01225	0.8	2.5	2				●								F39
 Multi Edge / Tough	CPGB 080204S01035MET	CPGB 080204ME-T	S01035	0.4	1.9	2			●		●	●		●				F39
	080208S01035MET	080208ME-T	S01035	0.8	2.2	2						●						F39
	CPGB 090304S01035MET	CPGB 090304ME-T	S01035	0.4	1.9	2			●	●	●	●		●				F39
	090308S01035MET	090308ME-T	S01035	0.8	2.5	2				●	●	●		●				F39
 Small Edge	CPGB 080202T00815SE	CPGB 080202SE	T00815	0.2	1.9	1		●	●									F39
	080204T00815SE	080204SE	T00815	0.4	1.9	1		●	●									F39
	CPGB 090302T00815SE	CPGB 090302SE	T00815	0.2	1.9	1		●	●									F39
	090304T00815SE	090304SE	T00815	0.4	1.9	1		●	●		●							F39
 Small Edge / Tough	CPGB 080204S01035SET	CPGB 080204SE-T	S01035	0.4	1.9	1						●						F39
	CPGB 090304S01035SET	CPGB 090304SE-T	S01035	0.4	1.9	1			●									F39

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

(mm)

Description	A	T	ϕd	α
DCMW 0702_	6.35	2.38	2.8	7°
11T3_	9.525	3.97	4.4	

■ 55° Rhombic / Positive

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	✠
	Hard Materials (Finishing)	○ ◔ ● ○ ◕
	Hard Materials (Chip Control)	
	Sintered Steel	◕ ✠

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
Multi Edge	DCMW 070202T00815ME	DCMW 070202ME	T00815	0.2	1.9	2		●	●	●	●	●		●	●			Ref. to the table below
	DCMW 070204T00815ME	DCMW 070204ME		0.4	1.7			●	●	●	●	●		●	●			
	DCMW 070208T00815ME	DCMW 070208ME		0.8	1.9				●	●	●	●		●				
	DCMW 11T302T00815ME	DCMW 11T302ME	T00815	0.2	1.9	2		●	●	●	●	●		●	●			
	11T304T00815ME	11T304ME		0.4	1.7			●	●	●	●	●	●	●	●	●	●	
	11T308T00815ME	11T308ME		0.8	1.9			●	●	●	●	●	●	●	●	●	●	
	11T312T00815ME	11T312ME		1.2	1.9				●	●		●	●	●				
NEW Multi edge / General Purpose	DCMW 11T302S01225MES	-	S01225	0.2	1.9	2				●								
	11T304S01225MES	-		0.4	1.7					●								
	11T308S01225MES	-		0.8	1.9					●								
Multi Edge / Tough	DCMW 070202S01035MET	DCMW 070202ME-T	S01035	0.2	1.9	2					●	●		●				
	DCMW 070204S01035MET	DCMW 070204ME-T		0.4	1.7						●	●		●				
	DCMW 070208S01035MET	DCMW 070208ME-T		0.8	1.9							●		●				
	DCMW 11T302S01035MET	DCMW 11T302ME-T	S01035	0.2	1.9	2			●	●	●	●		●				
	11T304S01035MET	11T304ME-T		0.4	1.7				●	●	●	●		●				
	11T308S01035MET	11T308ME-T		0.8	1.9				●		●	●		●				
	11T312S01035MET	11T312ME-T		1.2	1.9						●	●		●				
Small Edge	DCMW 070202T00815SE	DCMW 070202SE	T00815	0.2	1.9	1		●	●		●	●						
	070204T00815SE	070204SE		0.4	1.7			●	●		●	●						
	DCMW 11T302T00815SE	DCMW 11T302SE	T00815	0.2	1.9	1		●	●									
	11T304T00815SE	11T304SE		0.4	1.7			●	●									
	11T308T00815SE	11T308SE		0.8	1.9				●			●						
Small Edge / Tough	DCMW 070204S01035SET	DCMW 070204SE-T	S01035	0.4	1.7	1			●									
	DCMW 11T302S01035SET	DCMW 11T302SE-T	S01035	0.2	1.9	1			●									
	11T304S01035SET	11T304SE-T		0.4	1.7				●									
	11T308S01035SET	11T308SE-T		0.8	1.9				●									

Insert Description	Ref. Page for Applicable Toolholders
DC..07 type	**E24~E27,E35,F41~F43**
DC..11 type	**E20,E24~E27,E35,F41~F43,F62**

●CC type / TP type

Insert Description	Ref. Page for Applicable Toolholders
CC..0602 type	**E22,E23,E34,F37**
CC..09T3 type	**E22,E23,E34,F37,F62**

Insert Description	Ref. Page for Applicable Toolholders
TP..0802 type	**E29,F49**
TP..0902 type	**F47,F49**

Insert Description	Ref. Page for Applicable Toolholders
TP..1103 type	**E29,F47,F48**
TP..1603 type	**F47,F48**

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

How to read pages of "Turning Inserts" ➡ B13 (mm)

60° Triangle / Positive

(mm)

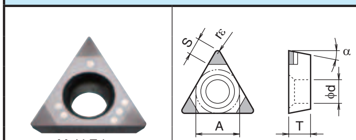
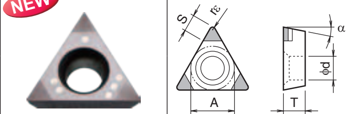
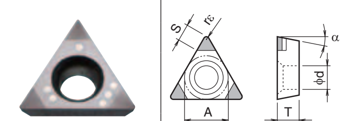
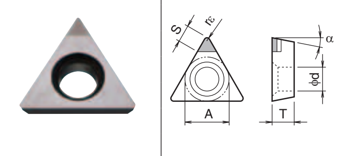
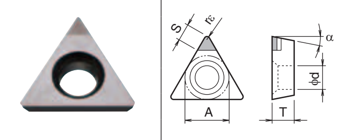
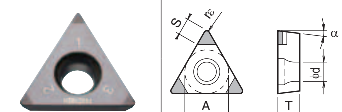
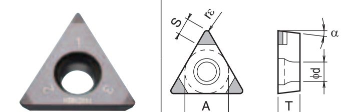
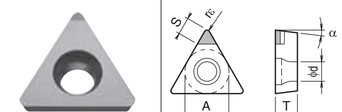
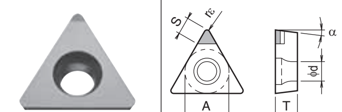
Description	A	T	ϕd	α
TPGB 0802_	4.76	2.38	2.5	11°
0902_	5.56		3.0	

(mm)

Description	A	T	ϕd	α
TPGB 1103_	6.35	3.18	3.5	11°
1603_	9.525		4.5	
TPGW 1604_	9.525	4.76	4.4	11°

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

	Work material	KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M
K	Gray Cast Iron (With Scale)											
	Gray Cast Iron (Without Scale)									●		
	Nodular Cast Iron (With Scale)											
H	Hard Materials (Roughing)								✖			
	Hard Materials (Finishing)		○	◌	●	○	◕					
	Hard Materials (Chip Control)											
	Sintered Steel											

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
 Multi Edge	TPGB 110302T00815ME	TPGB 110302ME	T00815	0.2	2.3	3		●	●	●	●	●			●			Ref. to the table below C15
	110304T00815ME	110304ME	T00815	0.4	2.1	3		●	●	●	●	●		●	●			
	110308T00815ME	110308ME	T00815	0.8	1.8	3		●	●	●	●	●		●	●			
	TPGB 160304T00815ME	TPGB 160304ME	T00815	0.4	1.8	3				●	●	●		●	●			
	160308T00815ME	160308ME	T00815	0.8	1.5	3				●	●	●		●	●			
NEW  Multi edge / General Purpose	TPGB 110304S01225MES	-	S01225	0.4	2.1	3				●								
	110308S01225MES	-	S01225	0.8	1.8	3				●								
 Multi Edge / Tough	TPGB 110302S01035MET	TPGB 110302ME-T	S01035	0.2	2.3	3					●	●		●				
	110304S01035MET	110304ME-T	S01035	0.4	2.1	3				●	●	●		●				
	110308S01035MET	110308ME-T	S01035	0.8	1.8	3				●	●	●		●				
	TPGB 160304S01035MET	TPGB 160304ME-T	S01035	0.4	1.8	3			●		●	●		●				
	160308S01035MET	160308ME-T	S01035	0.8	1.5	3			●			●						
 Small Edge	TPGB 080202T00815SE	TPGB 080202SE	T00815	0.2	1.8	1		●	●		●	●						
	080204T00815SE	080204SE	T00815	0.4	1.6	1		●	●		●	●						
	TPGB 090202T00815SE	TPGB 090202SE	T00815	0.2	1.8	1		●	●		●	●						
	090204T00815SE	090204SE	T00815	0.4	1.6	1		●	●		●	●						
	TPGB 110302T00815SE	TPGB 110302SE	T00815	0.2	1.9	1		●	●		●							
	110304T00815SE	110304SE	T00815	0.4	1.8	1		●	●		●							
	110308T00815SE	110308SE	T00815	0.8	1.5	1			●									
	TPGB 160302T00815SE	TPGB 160302SE	T00815	0.2	1.9	1		●	●		●							
	160304T00815SE	160304SE	T00815	0.4	1.8	1		●	●		●							
 Small Edge / Tough	TPGB 080202S01035SET	TPGB 080202SE-T	S01035	0.2	1.8	1					●	●						
	080204S01035SET	080204SE-T	S01035	0.4	1.6	1			●		●	●						
	TPGB 090202S01035SET	TPGB 090202SE-T	S01035	0.2	1.8	1					●	●						
	090204S01035SET	090204SE-T	S01035	0.4	1.6	1			●		●	●						
	TPGB 110304S01035SET	TPGB 110304SE-T	S01035	0.4	1.8	1			●									
	110308S01035SET	110308SE-T	S01035	0.8	1.5	1			●									
	TPGB 160304S01035SET	TPGB 160304SE-T	S01035	0.4	1.8	1			●									
	160308S01035SET	160308SE-T	S01035	0.8	1.5	1			●									
 Multi Edge	TPGW 160404T00815ME	TPGW 160404ME	T00815	0.4	1.8	3					●	●						-
	160408T00815ME	160408ME	T00815	0.8	1.5	3					●	●						
 Multi Edge / Tough	TPGW 160404S01035MET	TPGW 160404ME-T	S01035	0.4	1.8	3			●		●	●						
	160408S01035MET	160408ME-T	S01035	0.8	1.5	3					●	●						
 Small Edge	TPGW 160404T00815SE	TPGW 160404SE	T00815	0.4	1.8	1			●									
 Small Edge / Tough	TPGW 160404S01035SET	TPGW 160404SE-T	S01035	0.4	1.9	1			●									

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

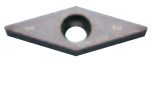
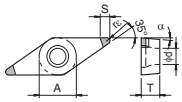
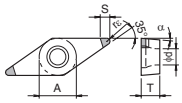
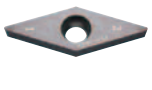
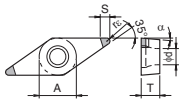
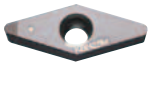
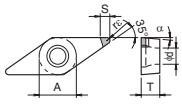
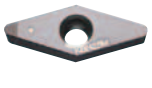
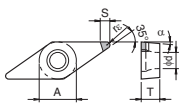
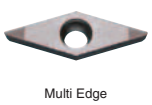
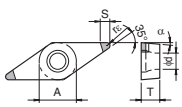
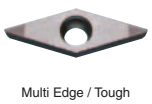
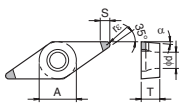
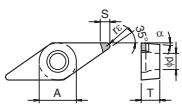
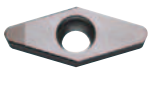
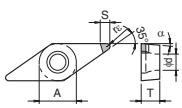
■ 35° Rhombic / Positive

(mm)

Description	A	T	ϕd	α
VBGW 1103_	6.35	3.18	2.8	5°
1604_	9.525	4.76	4.4	
VCGW 0802_	4.76	2.38	2.3	7°

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

K	Gray Cast Iron (With Scale)	
	Gray Cast Iron (Without Scale)	●
	Nodular Cast Iron (With Scale)	
H	Hard Materials (Roughing)	✠
	Hard Materials (Finishing)	○ ◔ ● ○ ◕
	Hard Materials (Chip Control)	
	Sintered Steel	◕ ✠

Insert		Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	CBN KBN65B	CBN KBN510	CBN KBN525	MEGACOAT CBN KBN05M	MEGACOAT CBN KBN10M	MEGACOAT CBN KBN25M	MEGACOAT CBN KBN30M	MEGACOAT CBN KBN35M	MEGACOAT CBN KBN60M	MEGACOAT CBN KBN65M	MEGACOAT CBN KBN70M	Ref. Page for Applicable Toolholders
 Multi Edge		VBGW 110302T00815ME	VBGW 110302ME	T00815	0.2	2.4	2		●	●	●	●	●		●	●			Ref. to the table below
		VBGW 110304T00815ME	VBGW 110304ME		0.4	2.0			●	●	●	●	●	●	●	●	●	●	
		VBGW 110308T00815ME	VBGW 110308ME		0.8	1.7				●	●	●	●	●				●	
		VBGW 160402T00815ME	VBGW 160402ME	T00815	0.2	2.4	2		●	●	●	●	●		●				
		VBGW 160404T00815ME	VBGW 160404ME		0.4	2.0			●	●	●	●	●	●	●	●	●	●	
		VBGW 160408T00815ME	VBGW 160408ME		0.8	1.7			●	●	●	●	●	●	●	●	●	●	
NEW  Multi edge / General Purpose		VBGW 110304S01225MES	-	S01225	0.4	2.0	2				●								
		VBGW 160404S01225MES	-	S01225	0.4	2.0	2				●								
 Multi Edge / Tough Edge		VBGW 110302S01035MET	VBGW 110302ME-T	S01035	0.2	2.4	2					●	●		●				
		VBGW 110304S01035MET	VBGW 110304ME-T		0.4	2.0				●	●	●	●		●				
		VBGW 110308S01035MET	VBGW 110308ME-T		0.8	1.7						●	●		●				
		VBGW 160402S01035MET	VBGW 160402ME-T	S01035	0.2	2.4	2					●	●		●				
		VBGW 160404S01035MET	VBGW 160404ME-T		0.4	2.0				●	●	●	●		●				
		VBGW 160408S01035MET	VBGW 160408ME-T		0.8	1.7						●	●		●				
 Small Edge		VBGW 110302T00815SE	VBGW 110302SE	T00815	0.2	2.8	1		●	●		●	●						
		VBGW 110304T00815SE	VBGW 110304SE		0.4	2.4			●	●		●	●						
		VBGW 110308T00815SE	VBGW 110308SE		0.8	1.7			●			●							
		VBGW 160402T00815SE	VBGW 160402SE	T00815	0.2	2.4	1		●	●									
		VBGW 160404T00815SE	VBGW 160404SE		0.4	2.0			●	●		●							
		VBGW 160408T00815SE	VBGW 160408SE		0.8	1.7			●	●									
 Small Edge / Tough		VBGW 110304S01035SET	VBGW 110304SE-T	S01035	0.4	2.0	1			●									
		VBGW 110308S01035SET	VBGW 110308SE-T		0.8	1.7							●						
		VBGW 160404S01035SET	VBGW 160404SE-T	S01035	0.4	2.0	1			●									
		VBGW 160408S01035SET	VBGW 160408SE-T		0.8	1.7				●									
 Multi Edge		VCGW 080202T00815ME	VCGW 080202ME	T00815	0.2	2.0	2		●	●	●	●	●		●				Ref. to the table below
		VCGW 080204T00815ME	VCGW 080204ME		0.4	2.0			●	●	●	●	●		●	●			
		VCGW 080208T00815ME	VCGW 080208ME		0.8	1.7					●					●			
 Multi Edge / Tough		VCGW 080202S01035MET	VCGW 080202ME-T	S01035	0.2	2.0	2					●	●						E36
		VCGW 080204S01035MET	VCGW 080204ME-T		0.4	2.0						●	●						F51
		VCGW 080208S01035MET	VCGW 080208ME-T		0.8	1.7							●						F53
 Small Edge		VCGW 080202T00815SE	VCGW 080202SE	T00815	0.2	2.4	1		●	●		●	●						
		VCGW 080204T00815SE	VCGW 080204SE		0.4	2.0			●	●		●							
 Small Edge / Tough		VCGW 080204S01035SET	VCGW 080204SE-T	S01035	0.4	2.0	1			●									
		VCGW 080208S01035SET	VCGW 080208SE-T		0.8	1.8				●									

Insert Description	Ref. Page for Applicable Toolholders
VB..1103 type	E30,E31,E36,F51,F53
VB..1604 type	E30,E31,F51,F53

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

C

CBN

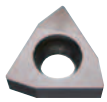
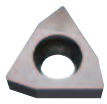
80° Trigon / Positive

(mm)

Description		A	T	φd	α
WBGW	0601_	3.97	1.59	2.3	5°
	0802_	4.76	2.38		

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M
K	Gray Cast Iron (With Scale)											
	Gray Cast Iron (Without Scale)											
	Nodular Cast Iron (With Scale)											
H	Hard Materials (Roughing)											
	Hard Materials (Finishing)		○	◔		●	◕					
	Hard Materials (Chip Control)											
	Sintered Steel											

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	Ref. Page for Applicable Toolholders
 Small Edge	WBGW 060102T00815R/L-SE	WBGW 060102R/L-SE	T00815	0.2	1.9	1		L	L		L	L						F55
	WBGW 060104T00815R/L-SE	WBGW 060104R/L-SE		0.4	1.9			L	L		L	L						
	WBGW 080202T00815R/L-SE	WBGW 080202R/L-SE	T00815	0.2	2.3	1		L	L		L	L						
	WBGW 080204T00815R/L-SE	WBGW 080204R/L-SE		0.4	2.3			L	L		L	L						
 Small Edge / Tough	WBGW 060102S01035R/L SET	WBGW 060102R/L-SE-T	S01035	0.2	1.9	1					L	L						
	WBGW 060104S01035R/L SET	WBGW 060104R/L-SE-T		0.4	1.9				L		L	L						
	WBGW 080202S01035R/L SET	WBGW 080202R/L-SE-T	S01035	0.2	2.3	1					L	L						
	WBGW 080204S01035R/L SET	WBGW 080204R/L-SE-T		0.4	2.3				L		L	L						

60° Triangle / Positive without Hole

(mm)

Description		A	T	φd	α
TBGN	0601_	3.97	1.59	-	5°
TPGN	1103_	6.35	3.18		11°
	1603_	9.525			

Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

		KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M
K	Gray Cast Iron (With Scale)											
	Gray Cast Iron (Without Scale)											
	Nodular Cast Iron (With Scale)											
H	Hard Materials (Roughing)											
	Hard Materials (Finishing)		○	◔		●						
	Hard Materials (Chip Control)											
	Sintered Steel											

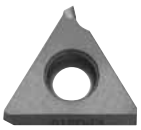
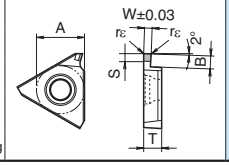
Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) rε	Dimension (mm) S	No. of Edges	KBN65B	KBN510	KBN525	KBN05M	KBN10M	KBN25M	KBN30M	KBN35M	KBN60M	KBN65M	KBN70M	Ref. Page for Applicable Toolholders
 CBN surface type	TBGN 060102T00815	TBGN 060102	T00815	0.2	-	3			●		●							-
	TBGN 060104T00815	TBGN 060104		0.4	-			●	●		●							
	TBGN 060108T00815	TBGN 060108		0.8	-			●	●		●							
 Multi Edge	TPGN 110302T00815ME	TPGN 110302ME	T00815	0.2	2.6	3			●									
	TPGN 110304T00815ME	TPGN 110304ME		0.4	2.5				●									
	TPGN 110308T00815ME	TPGN 110308ME		0.8	2.4				●									
 Small Edge	TPGN 110302T00815SE	TPGN 110302SE	T00815	0.2	2.6	1			●									E43
	TPGN 110304T00815SE	TPGN 110304SE		0.4	2.5			●	●									
	TPGN 110308T00815SE	TPGN 110308SE		0.8	2.4				●									
	TPGN 160302T00815SE	TPGN 160302SE	T00815	0.2	2.6	1		●	●									F57
	TPGN 160304T00815SE	TPGN 160304SE		0.4	2.4			●	●									
	TPGN 160308T00815SE	TPGN 160308SE		0.8	2.1				●									
 Small Edge / Tough	TPGN 110304S01035SET	TPGN 110304SE-T	S01035	0.4	2.5	1			●									
	TPGN 110308S01035SET	TPGN 110308SE-T		0.8	2.4				●									
	TPGN 160304S01035SET	TPGN 160304SE-T	S01035	0.4	2.4	1			●									
	TPGN 160308S01035SET	TPGN 160308SE-T		0.8	2.1				●									

CBN & PCD Tools are sold in 1 piece boxes

Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

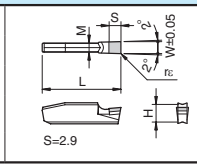
		KBN510	KBN525
K	Gray Cast Iron (With Scale)		
	Gray Cast Iron (Without Scale)		
	Nodular Cast Iron (With Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Sintered Steel		

Insert (Handed Insert shows Right-hand)	Description	(Previous Description)	Edge Prep.	Dimension (mm) W	B	rε	A	T	φd	S	No. of Edges	CBN KBN510	CBN KBN525	Ref. Page for Applicable Toolholders
 External / Internal Grooving	GBA43R/L 125-020	GBA43R/L 125	E008	1.25	2.0	0.2	12.70	4.76	5.5	1.9	1	●	●	G13 G15 G59
	GBA43R/L 150-020	GBA43R/L 150	E008	1.50	3.5							●	●	
	GBA43R/L 200-020	GBA43R/L 200	E008	2.00	3.5							●	●	
	GBA43R/L 250-020	GBA43R/L 250	E008	2.50	4.0							●	●	
	GBA43R/L 300-020	GBA43R/L 300	E008	3.00	4.0							●	●	

Deep Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

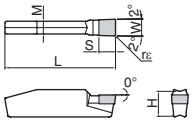
		KBN510	KBN525
K	Gray Cast Iron (With Scale)		
	Gray Cast Iron (Without Scale)		
	Nodular Cast Iron (With Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	○	●
	Hard Materials (Chip Control)		
	Sintered Steel		

Insert	Description	(Previous Description)	Edge Prep.	Dimension (mm) W	rε	L	H	M	S	No. of Edges	CBN KBN510	CBN KBN525	Ref. Page for Applicable Toolholders
 External Grooving	GMN 2	-	E008	2.0	0.2	20	4.3	1.8	2.9	1	●	●	G36,G37
 S=2.9	GMN 3	-	E008	3.0	0.4			2.3			●	●	G36
	GMN 4	-	E008	4.0				3.3			●	●	G37
	GMN 5	-	E008	5.0				4.2			●	●	G38
	GMN 6	-	E008	6.0				5.2			●	●	G36,G37

Deep Grooving Inserts (1-edge)

Edge Prep. Symbol	Cutting Edge Spec.	Example	
E	Honed Cutting Edge	E008	R0.08mm Honed
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge

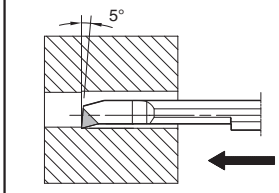
		MEGA CBN KBN05M	CBN KBN570
K	Gray Cast Iron (With Scale)		
	Gray Cast Iron (Without Scale)		
	Nodular Cast Iron (With Scale)		
H	Hard Materials (Roughing)		
	Hard Materials (Finishing)	●	
	Hard Materials (Chip Control)		
	Sintered Steel		●

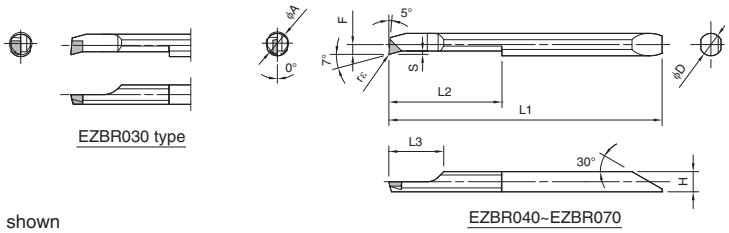
Insert	Description	Edge Prep.	Dimension (mm) W	W Tolerance	rε	M	L	H	S	No. of Edges	MEGA CBN KBN05M	CBN KBN570	Ref. Page for Applicable Toolholders
NEW  External Grooving	GDGS 2020N-020NB	E008	2.0	±0.03	0.2	1.8	20	4.3	2.9	1	●	●	G23 ~ G27
	GDGS 3020N-040NB	E008	3.0		0.4	2.3					●	●	
	GDGS 4020N-040NB	E008	4.0		0.4	3.3					●	●	
	GDGS 5020N-040NB	E008	5.0		0.4	4.2					●	●	G24 ~ G27
	GDGS 6020N-040NB	E008	6.0		0.4	5.2					●	●	

● : Std. Item (1 pc boxes) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

EZ Bars (EZB-NB:CBN) NEW



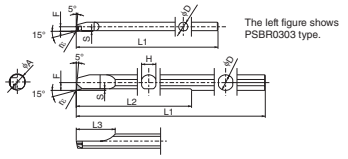


●Right-hand shown

●EZ Bars Dimensions

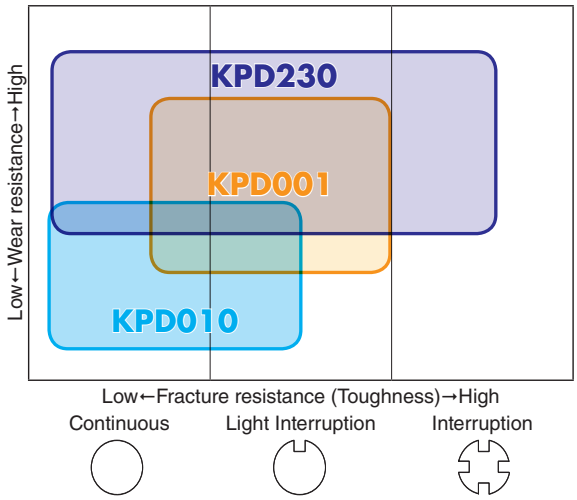
Edge Prep. Symbol	Cutting Edge Spec.	Example		Description	Edge Prep.	Min. Bore Dia. φA	Dimension (mm) φD	H	L1	L2	L3	F	S	rε	No. of Edges	CBN KBN05M		Ref. Page for Applicable Sleeve
E	Honed Cutting Edge	E008	R0.08mm Honed															
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge															
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge															
K	Gray Cast Iron (With Scale)			EZBR 030030-003NB	T00815	3	3	2.6	38.8	13	6.8	1.25	0.3	0.035 +0.015	1	●		F18 ~ F23
K	Gray Cast Iron (Without Scale)			EZBR 040040-003NB	T00815	4	4	3.6	48.8	20	9.8	1.75	0.5			●		
K	Nodular Cast Iron (With Scale)			EZBR 050050-003NB	T00815	5	5	4.6	58.1	25	9.8	2.25	0.5			●		
H	Hard Materials (Roughing)			EZBR 060060-003NB	T00815	6	6	5.6	66.1	30	11.8	2.75	0.5			●		
H	Hard Materials (Finishing)			EZBR 070070-003NB	T00815	7	7	6.6	74.1	35	11.8	3.25	0.5			●		
H	Hard Materials (Chip Control)																	
	Sintered Steel																	

Tip-Bars

Edge Prep. Symbol	Cutting Edge Spec.	Example		Insert (Handed Insert shows Right-hand)	Description	(Previous Description)	Edge Prep.	Min. Bore Dia. φA	Dimension (mm) φD	H	L1	L2	L3	F	S	rε	No. of Edges	CBN KBN510	KBN525	Ref. Page for Applicable Sleeve
E	Honed Cutting Edge	E008	R0.08mm Honed	 The left figure shows PSBR0303 type.	PSBR 0303-50NBS	-	T00815	3	2.8	-	50	25	7	1.4	0.15	0.05	1	●	●	F35
T	Chamfered Cutting Edge	T01215	0.12mm X 15° Chamfered Cutting Edge		0404-60NBS	-	T00815	4	3.8	3.6	60	30	10	1.9	0.3			●	●	
S	Chamfered and Honed Cutting Edge	S01225	0.12mm X 25° Chamfered and Honed Cutting Edge		0505-70NBS	-	T00815	5	4.8	4.4	70	40	12	2.4	0.5			●	●	
K	Gray Cast Iron (With Scale)				0606-70NBS	-	T00815	6	5.8	5.2	70	45		2.9				●	●	
K	Gray Cast Iron (Without Scale)				0707-80NBS	-	T00815	7	6.8	6.2	80	50		3.4				●	●	
K	Nodular Cast Iron (With Scale)																			
H	Hard Materials (Roughing)																			
H	Hard Materials (Finishing)																	○	●	
H	Hard Materials (Chip Control)																			
	Sintered Steel																			

CBN & PCD Tools are sold in 1 piece boxes

Application Map



About Insert Grades

Grades	Applications	Features
KPD001 (Ave. Grain Size under 1μm)	●High speed machining of non-ferrous metals and brass ●High speed machining of glass fiber and plastics ●Machining of carbide	●The world highest level micro-grain diamond ●High edge strength, and superior to wear resistance, fracture resistance and edge sharpening performance
KPD010 (Ave. Grain Size 10μm)	●High speed machining of non-ferrous metals and brass ●High speed machining of glass fiber and plastics ●Machining of carbide	●Good balance of wear resistance and flexural strength ●General purpose
KPD230 (Mixture of fine grain with the ave. grain size 2~30 μm and rough grain	●High speed milling of aluminum alloy and non-ferrous metals such as brass ●High speed milling of glass fiber and plastics	●High density PCD with mixture of rough and fine grains features excellent abrasive wear resistance and fracture resistance.

●Identification System (Turning Insert)

C	N	M	M	12	04	02	M –	SE
C	C	G	W	04	01	01		SE

Refer to B2 for "Turning Indexable Inserts Identification System"

Insert Type	Description	Manufacture's Option 1	Manufacture's Option 2	Series Name	Length of cutting edge	No. of Edges	re-grinding
Negative	CNMM120402M-SE	M (Indicates the tool is for negative inserts/toolholders)	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CNMM120402M-NE		NE	New Value Edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CNMM120402M		No Indication	-	Long	1	
Positive	CCGW040101SE	-	SE	Small Edge	Short (Small Edge)	1	Not Recommended
	CCGW040101NE		NE	New Value Edge	Long (85% length compared with no Indication's cutting edge)	1	Possible
	CCGW040101		No Indication	-	Long	1	

Note) 1. No edge preparation symbols for PCD inserts. Most of the PCD inserts' edge prep. are sharp edge.
2. "M" in manufacturer's option 1 indicates the inserts are applicable to negative toolholders.
3. Ref. page **B3** for insert color.

●About re-grinding
1) Regrinding is possible with the inserts with "NE" and no symbol in manufacturer's option 2.
Regrinding can not be available depending on the edge condition.
2) Regrinding is not recommended for inserts with "SE" in manufacturer's option 2.

Recommended Cutting Conditions (Turning)

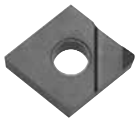
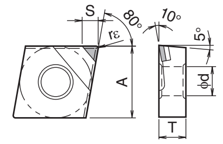
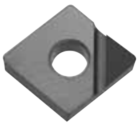
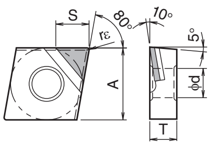
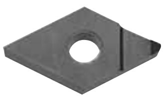
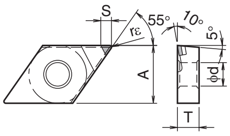
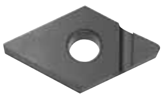
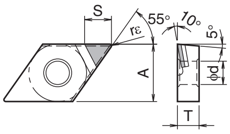
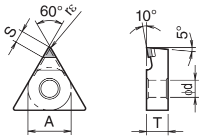
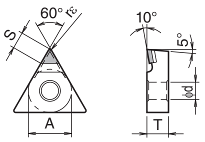
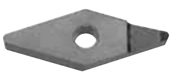
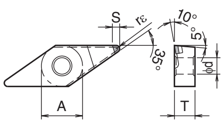
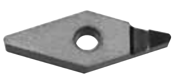
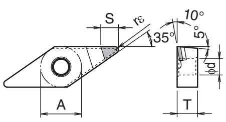
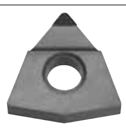
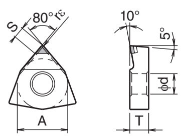
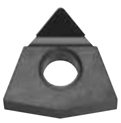
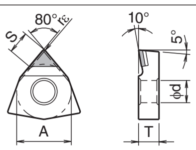
Workpiece Material	Insert Grades		Cutting Conditions				Remarks
	KPD001	KPD010	Cutting speed (m/min)	ap (mm) Small Edge and Positive (Inserts)	ap (mm) Negative (Inserts)	Feed Rate (mm/rev)	
Aluminum alloys Zinc alloys	★	☆	300~1500	~1.0	~2.0	0.03~0.5	Both Dry and Coolant Cutting Available
Copper, Brass, Bronze	★	☆	300~1000	~1.0	~2.0	0.03~0.5	
Magnesium Alloys	★	☆	400~1200	~1.0	~2.0	0.03~0.5	
Carbide	★	☆	10~30	~0.3	~0.3	0.03~0.1	
Titanium Alloys	★	☆	100~200	~1.0	~2.0	0.05~0.2	Coolant
Glass fiber reinforced plastics Carbon fiber	★	☆	100~600	~1.0	~2.0	0.05~0.5	Dry
Silica Filling Plastic Particle Board	★	☆	400~800	~1.0	~2.0	0.05~0.5	

★: 1st Recommendation ☆: 2nd Recommendation

How to read pages of "Turning Inserts" ➡ B13

Negative

N	Non-ferrous Metals (with interruption)	◐
N	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	◐
S	Titanium Alloys (without interruption)	●

Edge Prep.													
PCD all items		Sharp Edge											
Insert		Description		Dimension (mm) A	T	ϕd	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Ref. Page for Applicable Toolholders
 Small Edge		CNMM	120402M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●	D8 F60 F64
			120404M-SE				0.4	2.8			●	●	
			120408M-SE				0.8	2.7			●	●	
		CNMM	120402M-NE	12.70	4.76	5.16	0.2	5.1	-	1	●		
			120404M-NE				0.4	5.0			●		
			120408M-NE				0.8	4.9			●		
		CNMM	120402M				0.2	5.8			●	●	
			120404M				0.4	5.8			●	●	
			120408M				0.8	5.7			●	●	
			120412M				1.2	5.6				●	
 Small Edge		DNMM	150402M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●	D10 D11 F61 F66
			150404M-SE				0.4	2.6			●	●	
			150408M-SE				0.8	2.2			●	●	
		DNMM	150402M-NE	12.70	4.76	5.16	0.2	5.2	-	1	●		
			150404M-NE				0.4	5.0			●		
			150408M-NE				0.8	4.6			●		
		DNMM	150402M				0.2	5.9			●	●	
			150404M				0.4	5.8			●	●	
			150408M				0.8	5.4			●	●	
			150412M				1.2	5.0				●	
 Small Edge		TNMM	160402M-SE	9.525	4.76	3.81	0.2	2.7	-	1	●	●	D14 D15 F61 F68
			160404M-SE				0.4	2.6			●	●	
			160408M-SE				0.8	2.3			●	●	
		TNMM	160402M-NE	9.525	4.76	3.81	0.2	3.2	-	1	●		
			160404M-NE				0.4	3.1			●		
			160408M-NE				0.8	2.8			●		
		TNMM	160402M				0.2	3.8			●	●	
			160404M				0.4	3.6			●	●	
			160408M				0.8	3.3			●	●	
			160412M				1.2	3.0				●	
 Small Edge		VNMM	160402M-SE	9.525	4.76	3.81	0.2	2.9	-	1	●	●	D16 D17 D18
			160404M-SE				0.4	2.5			●	●	
			160408M-SE				0.8	1.6			●	●	
		VNMM	160402M-NE	9.525	4.76	3.81	0.2	4.7	-	1	●		
			160404M-NE				0.4	4.2			●		
			160408M-NE				0.8	3.4			●		
		VNMM	160402M				0.2	5.3			●	●	
			160404M				0.4	4.8			●	●	
			160408M				0.8	4.0			●	●	
			160412M				1.2	3.1				●	
 Small Edge		WNMM	080402M-SE	12.70	4.76	5.16	0.2	2.8	-	1	●	●	D20 F70
			080404M-SE				0.4	2.8			●	●	
			080408M-SE				0.8	2.7				●	
		WNMM	080402M-NE	12.70	4.76	5.16	0.2	5.0	-	1	●		
			080404M-NE				0.4	5.0			●		
		WNMM	080402M				0.2	5.8				●	
			080404M				0.4	5.8				●	

· **SE**: Small Edge / **NE**: New Value Edge.

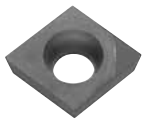
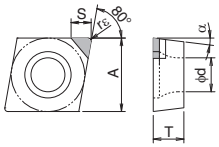
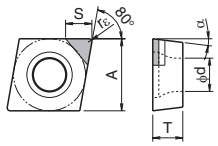
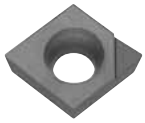
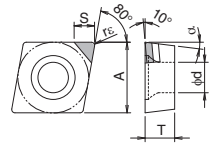
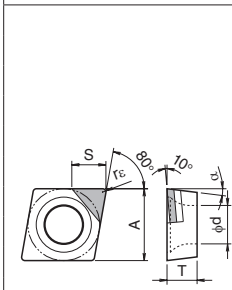
● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

Positive

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

Edge Prep.	
PCD all items	Sharp Edge

Insert		Description		Dimension (mm) A	T	ϕd	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Ref. Page for Applicable Toolholders
		CCGW	040101SE	4.3	1.8	2.3	0.1	1.3	7°	1	●		F37
		NEW	040102SE				0.2	1.3			●		
			040104SE				0.4	1.3			●		
		CCGW	060201SE	6.35	2.38	2.8	0.1	2.3			●		Ref. to the table below
		NEW	060202SE				0.2	2.3			●		
			060204SE				0.4	2.3			●		
		CCGW	09T302SE	9.525	3.97	4.4	0.2	2.7			●		
		NEW	09T304SE				0.4	2.7			●		
			09T308SE				0.8	2.7			●		
		CCGW	040101NE	4.3	1.8	2.3	0.1	1.7	7°	1	●		F37
			040102NE				0.2	1.6			●		
			040104NE				0.4	1.6			●		
		CCGW	060201NE	6.35	2.38	2.8	0.1	3.1			●		Ref. to the table below
			060202NE				0.2	3.0			●		
			060204NE				0.4	3.0			●		
		CCGW	09T301NE	9.525	3.97	4.4	0.1	3.4			●		
			09T302NE				0.2	3.4			●		
			09T304NE				0.4	3.4			●		
			09T308NE				0.8	3.3			●		
		CCGW	040101	4.3	1.8	2.3	0.1	1.9	7°	1	●		F37
			040102				0.2	1.9			●	●	
			040104				0.4	1.9			●	●	
		CCGW	060201	6.35	2.38	2.8	0.1	3.5				●	Ref. to the table below
			060202				0.2	3.5				●	
			060204				0.4	3.5				●	
		CCGW	09T301	9.525	3.97	4.4	0.1	3.8			●	●	
			09T302				0.2	3.8			●	●	
			09T304				0.4	3.7			●	●	
			09T308				0.8	3.6				●	
		CCMT	060202SE	6.35	2.38	2.8	0.2	2.2	7°	1	●		
		NEW	060204SE				0.4	2.2			●		
		CCMT	09T301SE	9.525	3.97	4.4	0.1	2.7			●		
		NEW	09T302SE				0.2	2.7			●		
			09T304SE				0.4	2.7			●		
			09T308SE				0.8	2.7			●		
		CCMT	060201NE	6.35	2.38	2.8	0.1	2.8	7°	1	●		Ref. to the table below
			060202NE				0.2	2.8			●		
			060204NE				0.4	2.8			●		
		CCMT	09T301NE	9.525	3.97	4.4	0.1	3.4			●		
			09T302NE				0.2	3.4			●		
			09T304NE				0.4	3.4			●		
			09T308NE				0.8	3.3			●		
		CCMT	060201	6.35	2.38	2.8	0.1	3.3			●	●	
			060202				0.2	3.3			●	●	
			060204				0.4	3.2			●	●	
		CCMT	09T301	9.525	3.97	4.4	0.1	3.9			●	●	
			09T302				0.2	3.9			●	●	
			09T304				0.4	3.9			●	●	
			09T308				0.8	3.8				●	

· **SE**: Small Edge / **NE**: New Value Edge.

Insert Description	Ref. Page for Applicable Toolholders
CC..0602 type	**E22,E23,E34,F37**
CC..09T3 type	**E22,E23,E34,F37,F62**

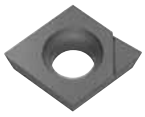
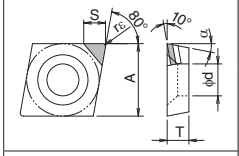
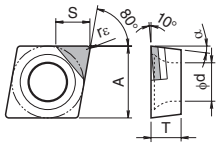
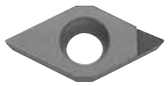
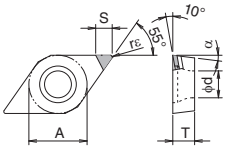
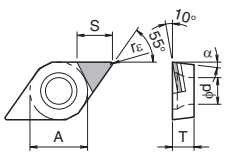
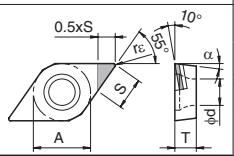
● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

Positive

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed insert shows L-Hand)		Description		Dimension (mm) A	T	ϕd	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Ref. Page for Applicable Toolholders
		CPMH	090302SE	9.525	3.18	4.5	0.2	2.7	11°	1	●		F39
		NEW	090304SE				0.4	2.7			●		
		CPMH	080202NE	7.94	2.38	3.5	0.2	3.2	11°	1	●		
			080204NE				0.4	3.2			●		
		CPMH	090301NE	9.525	3.18	4.5	0.1	3.4			●		
			090302NE				0.2	3.4			●		
			090304NE				0.4	3.4			●		
			090308NE				0.8	3.3			●		
		CPMH	080201	7.94	2.38	3.5	0.1	3.7	11°	1	●	●	
			080202				0.2	3.7			●	●	
			080204				0.4	3.7			●	●	
		CPMH	090301	9.525	3.18	4.5	0.1	4.0				●	
			090302				0.2	3.9			●	●	
			090304				0.4	3.9			●	●	
			090308				0.8	3.8				●	
		DCMT	070201SE	6.35	2.38	2.8	0.1	2.7	7°	1	●		Ref. to the table below
		NEW	070202SE				0.2	2.7			●		
			070204SE				0.4	2.7			●		
		DCMT	11T301SE	9.525	3.97	4.4	0.1	2.7			●		
		NEW	11T302SE				0.2	2.7			●		
			11T304SE				0.4	2.7			●		
			11T308SE				0.8	2.7			●		
		DCMT	070201NE	6.35	2.38	2.8	0.1	3.4			●		
			070202NE				0.2	3.4			●		
			070204NE				0.4	3.2			●		
		DCMT	11T301NE	9.525	3.97	4.4	0.1	3.4	7°	1	●		
			11T302NE				0.2	3.3			●		
			11T304NE				0.4	3.2			●		
			11T308NE				0.8	2.8			●		
		DCMT	070201	6.35	2.38	2.8	0.1	4.0			●	●	
			070202				0.2	3.9			●	●	
			070204				0.4	3.7			●	●	
		DCMT	11T301	9.525	3.97	4.4	0.1	4.0			●	●	
			11T302				0.2	3.9			●	●	
			11T304				0.4	3.7			●	●	
			11T308				0.8	3.3			●	●	
		DCMT	070202R/L-NE	6.35	2.38	2.8	0.2	3.3	7°	1	●		
			070204R/L-NE				0.4	3.2			●		
		DCMT	11T302R/L-NE	9.525	3.97	4.4	0.2	3.3			●		
			11T304R/L-NE				0.4	3.2			●		

· **SE**: Small Edge / **NE**: New Value Edge.

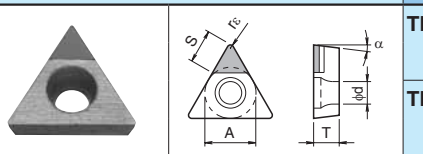
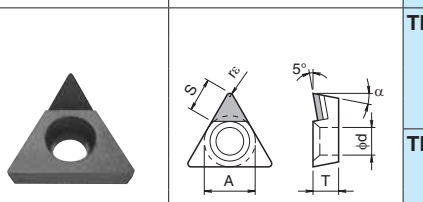
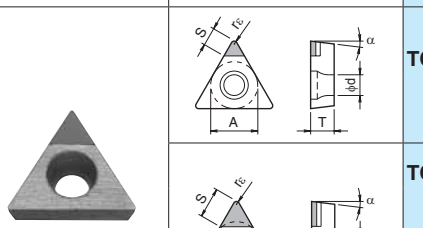
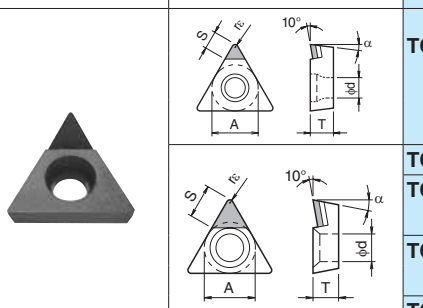
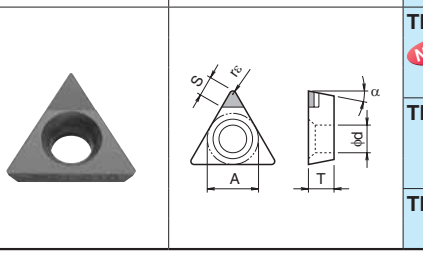
Insert Description	Ref. Page for Applicable Toolholders
DC..07 type	**E24~E27,E35,F41~F43**
DC..11 type	**E20,E24~E27,E35,F41~F43,F62**

CBN & PCD Tools are sold in 1 piece boxes

Positive

N	Non-ferrous Metals (with interruption)	●
	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	●
	Titanium Alloys (without interruption)	●

Edge Prep.	
PCD all items	Sharp Edge

Insert	Description	Dimension (mm) A	T	ϕd	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Ref. Page for Applicable Toolholders
	TBGW 060102NE	3.97	1.59	2.3	0.2	2.1	5°	1	●		
	TBGW 060104NE				0.4	1.9			●		
	TBGW 060102				0.2	2.4			●	●	
	TBGW 060104				0.4	2.2			●	●	
	TBMT 060101NE	3.97	1.59	2.3	0.1	2.2	5°	1	●		F47 F49
	TBMT 060102NE				0.2	2.1			●		
	TBMT 060104NE				0.4	2.0			●		
	TBMT 060108NE				0.8	1.7			●		
	TBMT 060101				0.1	2.6				●	
	TBMT 060102				0.2	2.5			●	●	
	TBMT 060104				0.4	2.3				●	
	TBMT 060108				0.8	2.0			●	●	
	TCGW 110302SE	6.35	3.18	2.8	0.2	2.5	7°	1		●	E29
	TCGW 110304SE				0.4	2.4				●	
	TCGW 110302NE				0.2	3.3	7°	1	●		
	TCGW 110304NE				0.4	3.2			●		
	TCGW 110302				0.2	3.9	7°	1		●	
	TCGW 110304				0.4	3.7				●	
	TCMT 110301SE	6.35	3.18	2.8	0.1	2.6	7°	1		●	
	TCMT 110302SE				0.2	2.5				●	
	TCMT 110304SE				0.4	2.4				●	
	TCMT 080202NE	4.76	2.38	2.3	0.2	2.1	7°	1	●		
	TCMT 110302NE	6.35	3.18	2.8	0.2	3.4			●		
	TCMT 110304NE				0.4	3.3			●		
	TCMT 080202	4.76	2.38	2.3	0.2	2.4	7°	1		●	
	TCMT 080204				0.4	2.2				●	
	TCMT 110302	6.35	2.38	2.8	0.2	3.9				●	
	TPGB 090202SE NEW	5.56	2.38	3.0	0.2	2.1	11°	1	●		Ref. to the table below
	TPGB 090204SE				0.4	2.1			●		
	TPGB 090208SE				0.8	2.1			●		
	TPGB 110301SE	6.35	3.18	3.3	0.1	2.7			●	●	
	TPGB 110302SE				0.2	2.6			●	●	
	TPGB 110304SE				0.4	2.5			●	●	
	TPGB 160302SE	9.525	3.18	4.5	0.2	2.6			●	●	
	TPGB 160304SE				0.4	2.4			●	●	

· **SE**: Small Edge / **NE**: New Value Edge.

Insert Description	Ref. Page for Applicable Toolholders
TP..0802 type	**E29,F49**
TP..0902 type	**F47,F49**

Insert Description	Ref. Page for Applicable Toolholders
TP..1103 type	**E29,F47,F48**
TP..1603 type	**F47,F48**

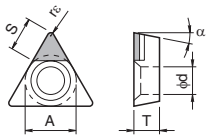
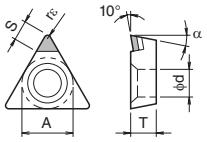
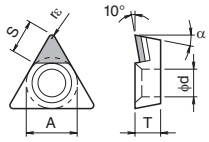
● : Std. Item (1 pc boxes) ☐ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

Positive

N	Non-ferrous Metals (with interruption)	●
	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	●
	Titanium Alloys (without interruption)	●

Edge Prep.: PCD all items / Sharp Edge

Insert		Description		Dimension (mm) A	T	ϕd	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Ref. Page for Applicable Toolholders
		TPGB	080202NE	4.76	2.38	2.5	0.2	2.2	11°	1	●		
		TPGB	080204NE				0.4	2.1			●		
		TPGB	080208NE				0.8	1.8			●		
		TPGB	090202NE	5.56	2.38	3.0	0.2	2.7			●		
		TPGB	090204NE				0.4	2.6			●		
		TPGB	090208NE				0.8	2.3			●		
		TPGB	110302NE	6.35	3.18	3.3	0.2	3.4			●		
		TPGB	110304NE				0.4	3.3			●		
		TPGB	110308NE				0.8	3.0			●		
		TPGB	160304NE	9.525	3.18	4.5	0.4	3.2			●		
		TPGB	160308NE				0.8	2.9			●		
		TPGB	080202	4.76	2.38	2.5	0.2	2.6			●	●	
		TPGB	080204				0.4	2.4			●	●	
		TPGB	090202	5.56	2.38	3.0	0.2	3.2			●	●	
		TPGB	090204				0.4	3.0			●	●	
		TPGB	110302	6.35	3.18	3.3	0.2	3.9			●	●	
		TPGB	110304				0.4	3.7			●	●	
		TPGB	110308				0.8	3.4				●	
		TPMH	080202SE NEW	4.76	2.38	2.5	0.2	2.0	11°	1	●		Ref. to the table below C25
		TPMH	080204SE				0.4	1.8			●		
		TPMH	090202SE NEW	5.56	2.38	3.0	0.2	2.4			●		
		TPMH	090204SE				0.4	2.2			●		
		TPMH	110301SE	6.35	3.18	3.5	0.1	2.7				●	
		TPMH	110302SE				0.2	2.6			●	●	
		TPMH	110304SE				0.4	2.5			●	●	
		TPMH	160302SE	9.525	3.18	4.5	0.2	2.6			●	●	
		TPMH	160304SE				0.4	2.4			●	●	
		TPMH	080201NE	4.76	2.38	2.5	0.1	2.3	11°	1	●		
		TPMH	080202NE				0.2	2.2			●		
		TPMH	080204NE				0.4	2.1			●		
		TPMH	090201NE	5.56	2.38	3.0	0.1	2.7			●		
		TPMH	090202NE				0.2	2.6			●		
		TPMH	090204NE				0.4	2.5			●		
		TPMH	090208NE				0.8	2.2			●		
		TPMH	110301NE	6.35	3.18	3.3	0.1	3.4			●		
		TPMH	110302NE				0.2	3.3			●		
		TPMH	110304NE				0.4	3.2			●		
		TPMH	110308NE				0.8	2.9			●		
		TPMH	160304NE	9.525	3.18	4.5	0.4	3.3			●		
		TPMH	160308NE				0.8	3.0			●		
		TPMH	080201	4.76	2.38	2.5	0.1	2.6	11°	1		●	
		TPMH	080202				0.2	2.5			●	●	
		TPMH	080204				0.4	2.3			●	●	
		TPMH	090201	5.56	2.38	3.0	0.1	3.0			●	●	
		TPMH	090202				0.2	2.9			●	●	
		TPMH	090204				0.4	2.8			●	●	
		TPMH	090208				0.8	2.5				●	
		TPMH	110301	6.35	3.18	3.3	0.1	3.9			●	●	
		TPMH	110302				0.2	3.9			●	●	
		TPMH	110304				0.4	3.7			●	●	
		TPMH	110308				0.8	3.4				●	
		TPMH	160302	9.525	3.18	4.5	0.2	4.0			●	●	
		TPMH	160304				0.4	3.8			●	●	
		TPMH	160308				0.8	3.6				●	

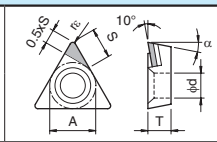
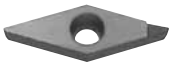
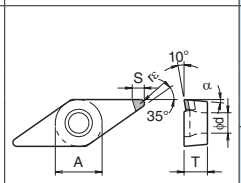
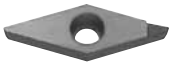
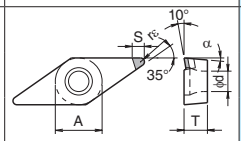
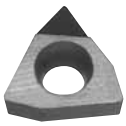
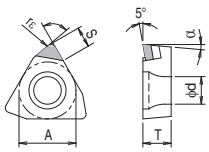
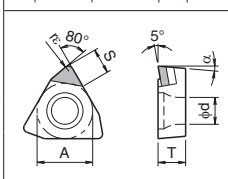
· **SE**: Small Edge / **NE**: New Value Edge.

CBN & PCD Tools are sold in 1 piece boxes

Positive

N	Non-ferrous Metals (with interruption)	●
	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	●
	Titanium Alloys (without interruption)	●

Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed insert shows L-Hand)	Description		Dimension (mm) A	T	ϕd	rε	S	Angle (°) α	No. of Edges	PCD KPD001	PCD KPD010	Ref. Page for Applicable Toolholders
 	TPMH	110302R/L-NE	6.35	3.18	3.3	0.2	3.8	11°	1	L		Ref. to the table below C25
		110304R/L-NE				0.4	3.6			L		
 	VBMT	110301SE	6.35	3.18	2.8	0.1	2.5	5°	1	●		Ref. to the table below
	NEW	110302SE				0.2	2.3			●		
		110304SE				0.4	1.9			●		
		110308SE				0.8	1.9			●		
	VBMT	160401SE	9.525	4.76	4.4	0.1	2.7			●		
	NEW	160402SE				0.2	2.5			●		
		160404SE				0.4	2.1			●		
		160408SE				0.8	2.0			●		
	VBMT	110301NE	6.35	3.18	2.8	0.1	2.6			●		
		110302NE				0.2	2.4			●		
		110304NE				0.4	2.0			●		
		110308NE				0.8	3.1			●		
	VBMT	160401NE	9.525	4.76	4.4	0.1	2.8			●		
		160402NE				0.2	2.6			●		
		160404NE				0.4	2.2			●		
		160408NE				0.8	3.0			●		
	VBMT	110301	6.35	3.18	2.8	0.1	3.0			●	●	
		110302				0.2	2.8			●	●	
		110304				0.4	2.4			●	●	
		110308				0.8	3.5			●	●	
	VBMT	160401	9.525	4.76	4.4	0.1	3.2			●	●	
		160402				0.2	3.0			●	●	
		160404				0.4	2.6			●	●	
		160408				0.8	3.5			●	●	
 	VCMT	080202SE	4.76	2.38	2.3	0.2	1.4	7°	1	●		E36 F51 F53
	NEW	080204SE				0.4	1.4			●		
		080208SE				0.8	1.4			●		
	VCMT	080201NE				0.1	1.7			●		
		080202NE				0.2	1.7			●		
		080204NE				0.4	1.8			●		
		080208NE				0.8	1.9			●		
	VCMT	080201				0.1	2.0				●	
		080202				0.2	2.0			●	●	
		080204				0.4	2.1			●	●	
		080208				0.8	2.2			●	●	
 	NEW WBMT	060102L-SE	3.97	1.59	2.3	0.2	1.3	5°	1	●		F55
	WBMT	060101L-NE	3.97	1.59	2.3	0.1	1.7	5°	1	●		
		060102L-NE				0.2	1.6			●		
		060104L-NE				0.4	1.6			●		
	WBMT	060101L	3.97	1.59	2.3	0.1	1.9	5°	1	●	●	
		060102L				0.2	1.9			●	●	
		060104L				0.4	1.9			●	●	

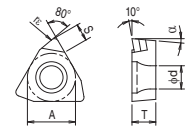
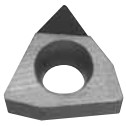
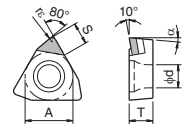
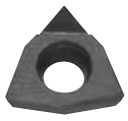
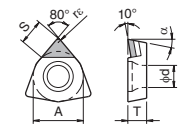
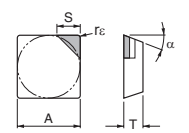
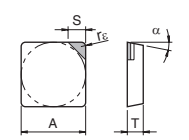
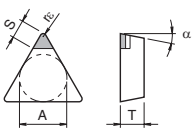
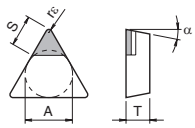
· **SE**: Small Edge / **NE**: New Value Edge.

Insert Description	Ref. Page for Applicable Toolholders
VB..1103 type	**E30,E31,E36,F51,F53**
VB..1604 type	**E30,E31,F51,F53**

● : Std. Item (1 pc boxes) L : Std. Item (Left-hand Only) □ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

Positive

Edge Prep.															
PCD all items		Sharp Edge													
Insert Handed insert shows L-Hand		Description		Dimension (mm)					Angle (°)	No. of Edges	PCD		Ref. Page for Applicable Toolholders
				A	T	ϕd	rε	S	α		KPD001	KPD010	
		NEW WBMT	080202L-SE	4.76	2.38	2.3	0.2	1.6	5°	1	●		
		WBMT	080202L-NE	4.76	2.38	2.3	0.2	2.1	5°	1	●		
		WBMT	080204L-NE				0.4	2.1			●		
		WBMT	080202L	4.76	2.38	2.3	0.2	2.4	5°	1	●	●	F55
		WBMT	080204L				0.4	2.3			●	●	
		WPMT	110202SE	6.35	2.38	2.8	0.2	2.1	11°	1	●		
		WPMT	110202NE				0.2	2.7			●		
		WPMT	110202				0.2	3.1				●	
		SEGN	120304NE	12.70	3.18	-	0.4	3.6	20°	1	●		-
		SPGN	120304NE	12.70	3.18	-	0.4	3.6	11°	1	●		E42
		SPGN	120304					4.2				●	F56
		TPGN	110301SE	6.35	3.18	-	0.1	2.6	11°	1	●		
		TPGN	110302SE				0.2	2.5			●	●	
		TPGN	110304SE				0.4	2.4			●	●	
		TPGN	160301SE	9.525	3.18		0.1	2.6				●	
		TPGN	160302SE				0.2	2.6			●	●	
		TPGN	160304SE				0.4	2.4			●	●	
		TPGN	160304NE	9.525	3.18	-	0.4	3.2	11°	1	●		E43
		TPGN	160308NE				0.8	2.9			●		F57
		TPGN	110302	6.35	3.18		0.2	3.9			●	●	
		TPGN	110304				0.4	3.7			●	●	
		TPGN	110308				0.8	3.4				●	
		TPGN	160302	9.525	3.18		0.2	3.9			●	●	
		TPGN	160304				0.4	3.7			●	●	
		TPGN	160308				0.8	3.4				●	

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

· **SE**: Small Edge / **NE**: New Value Edge.

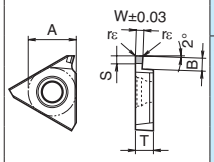
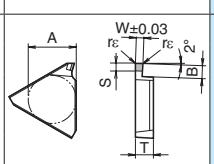
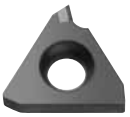
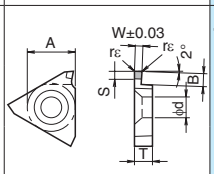
CBN & PCD Tools are sold in 1 piece boxes

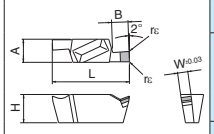
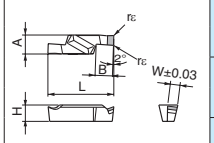
Grooving Inserts (1-edge)

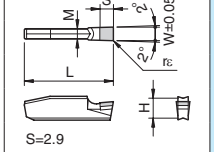
N	Non-ferrous Metals (with interruption)	●
	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	●
	Titanium Alloys (without interruption)	●

Edge Prep.

PCD all items | **Sharp Edge**

Insert (Handed Insert shows Right-hand)		Description		(Previous Description)		Dimension (mm) W	B	rε	A	T	φd	S	No. of Edges	PCD KPD001 R	KPD001 L	KPD010 R	KPD010 L	Ref. Page for Applicable Toolholders
 External / Internal Grooving		GBA32R/L	125-010	GBA32R/L	125	1.25	2.0	0.1	9.525	3.18	4.4	1.7	1			●		G13
			150-010		150	1.50								●		●		
		GBA43R/L	125-010	GBA43R/L	125	1.25	2.0	0.1	12.70	4.76	5.5	1.9				●	●	
			150-010		150	1.50	3.5							●	●	●	●	G15
			200-010		200	2.00								●	●	●	●	G59
			250-010		250	2.50	4.0							●	●	●	●	
			300-010		300	3.00								●	●	●	●	
 External Grooving		GB43R/L	125	-		1.25	2.0	0.1	12.70	4.76	-	1.9	1			□		G15
			150	-		1.50	3.5									□		
			200	-		2.00										□		
			250	-		2.50	4.0									□		
			300	-		3.00										□	□	
 External Grooving		TGF32R/L	125-010	-		1.25	2.0	0.1	9.525	3.18	4.5	1.7	1	●				G16 G17
			150-010	-		1.50								●				
			200-010	-		2.00	2.5					1.9		●				

Insert (Handed Insert shows Right-hand)		Description		(Previous Description)		Dimension (mm) W	B	rε	A	L	H	No. of Edges	PCD KPD001 R	KPD001 L	KPD010 R	KPD010 L	Ref. Page for Applicable Toolholders
 Internal Grooving		GVR/L	145-020A	GVR/L	145A	1.45	2.3	0.2	4.0	12	5.0	1			●	MTO	G57
			200-020A		200A	2.00									●	MTO	
			300-020A		300A	3.00									MTO	MTO	
		GVR/L	200-020B	GVR/L	200B	2.00	3.2	0.2	4.5	15	5.5				●	MTO	
			250-020B		250B	2.50									●	MTO	
			300-020B		300B	3.00	4.2								MTO	MTO	
		GVR/L	300-020C	GVR/L	300C	3.00	4.5	0.2	5.8	21	6.5				MTO	MTO	
			400-020C		400C	4.00	5.5								MTO	MTO	
 Face Grooving		GVFR/L	250-020B	GVFR/L	250B	2.50	4.8	0.2	5.8	20	5.0	1			●	●	G88 ~ G91 G98
			300-020B		300B	3.00	4.8								●	●	
			400-020B		400B	4.00	5.3								MTO	MTO	
		GVFR/L	350-020C	-		3.50	6.8	0.2	7.0	27	7.0				MTO	MTO	
			400-020C	-		4.00	6.8								MTO	MTO	
		GVFR/L	350-040C	GVFR/L	350C	3.50	6.8	0.4	7.0	27	7.0				MTO	MTO	
			400-040C		400C	4.00	6.8								MTO	MTO	

Insert		Description		(Previous Description)		Dimension (mm) W	rε	L	H	M	S	No. of Edges	PCD KPD001	KPD010	Ref. Page for Applicable Toolholders
 External Grooving	 S=2.9	GMN	2	-		2.0	0.2	20	4.3	1.8	2.9	1	●	●	G36 G37
			3	-		3.0				2.3			●	●	G36
			4	-		4.0				3.3			●	●	G37
			5	-		5.0				4.2			●	●	G38
			6	-		6.0				5.2				●	G36 G37

● : Std. Item (1 pc boxes)
MTO : Made to order
□ : Deleted from the next catalogue

CBN & PCD Tools are sold in 1 piece boxes

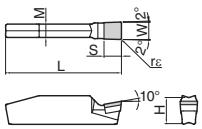
C

PCD

Deep Grooving Inserts (1-edge)

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

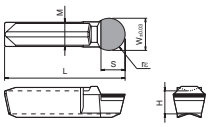
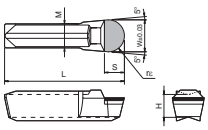
Edge Prep.	
All Items	Sharp Edge

Insert		Description		Dimension (mm) W	Tolerance	rε	M	L	H	S	No. of Edges	PCD KPD001		Ref. Page for Applicable Toolholders
NEW  External Grooving		GDGS	2020N-020NB	2.0	±0.03	0.2	1.8	20	4.3	2.9	1	●		G23 ~ G27
			3020N-020NB	3.0		0.2	2.3					●		
			4020N-020NB	4.0		0.2	3.3					●		
			5020N-020NB	5.0		0.2	4.2					●		G24 ~ G27
			6020N-020NB	6.0		0.2	5.2					●		

For Aluminum Wheel (1-edge)

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

Edge Prep.	
GMGW	Honed Cutting Edge

Insert		Description		Dimension (mm) W	rε	L	H	M	S		No. of Edges	PCD KPD001	KPD010	Ref. Page for Applicable Toolholders
		GMGW	6030-30R	6	3	30	5.5	5	4.5		1	●		G42
			8030-40R	8	4			6	6			●		
		GMGW	8030-40R-HR	8	4	30	5.5	6	5			●		

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Turning / Grooving Inserts (1-edge)

N	Non-ferrous Metals (with interruption)	●
	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	●
	Titanium Alloys (without interruption)	●

Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed Insert shows Right-hand)		Description		Dimension (mm) W	B	rε	T	H	h1	ϕd	S	Angle (°) θ	No. of Edges	PCD KPD001 R	L	Ref. Page for Applicable Toolholders
Turning / Grooving		TKF12R/L	200-AS	2.0	5	+0 -0.05 0.1	3	8.7	7.3	5	5.5	0°	1	●	●	E12
			250-AS	2.5	5									●	●	
		TKF16R/L	250-AS	2.5	8		4	9.5	8.0		6.5			●	●	
	NEW	TKF12L	200-ASR	2.0	5	+0 -0.05 0.1	3	8.7	7.3	5	5.5	0°	1		●	
			250-ASR	2.5	5										●	
		TKF16L	250-ASR	2.5	8		4	9.5	8.0		6.5				●	
External Grooving (Turning is possible)		TKF12R/L	150-NB	1.5	3.5	+0 -0.05 0.1	3	8.7	8.3	5	2.0	0°	1	●	●	
			200-NB	2.0	4						3.0			●	●	
			250-NB	2.5	4									●		
			250-NB4.5	2.5	5						4.5			●		

● Shown in the figure above is Left-hand Insert with Right-hand edge of PCD.

* Lead angle (Front cutting edge angle: θ) shows the angle when installed in toolholder.
* PCD Inserts of TKF type only for Turning and Grooving.
* Cut-off is not recommended.
* Dimension B: shows available grooving depth.

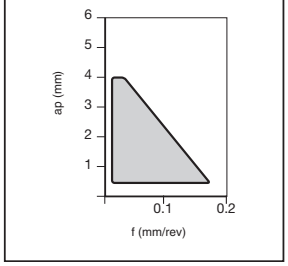
◆Inserts Identification System

TKF	12	R	200	-	AS	
TKF	12	L	200	-	AS	R

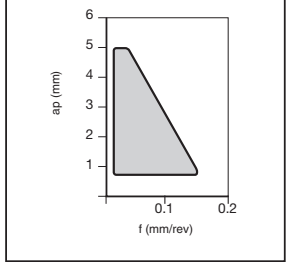
- TKF — Insert Type
- 12 — Insert Size
- R / L — Insert Hand: R: Right-hand; L: Left-hand
- 200 — Width (Edge Width)
- AS / NB — Name of Chipbreaker: AS: AS Chipbreaker; NB: Without Chipbreaker
- R — (PCD) insert hand: Without Indication: The edge hand is same as the insert hand. R: Right-hand

●Applicable Range

TKF12-AS/-ASR



TKF16-AS/-ASR



* PCD Inserts of TKF type only for Turning and Grooving.
* Cut-off is not recommended.

Note 1) The cutting edge of the TKF-AS/-ASR will be 1mm lower than the center line when attached to the KTKF toolholder (Ref. to Fig.1). Adjust the height by making NC lathe parameter settings or inserting a plate.
2) If the 1mm adjustment is not possible on your automatic lathe, use the TKF-NB. (Ref. to Fig.2.)

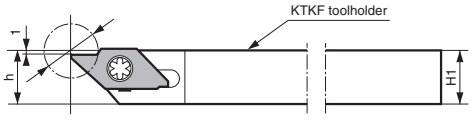


Fig.1 When a TKF-AS/-ASR insert is attached
(The cutting edge is 1mm lower than the center line.)

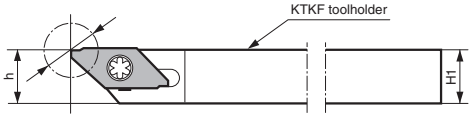


Fig.2 When a TKF-NB insert is attached

● : Std. Item (1 pc boxes)

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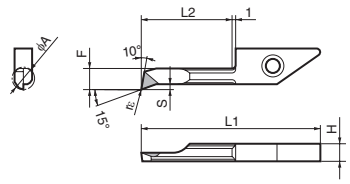
C

PCD

System Tip-Bars

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

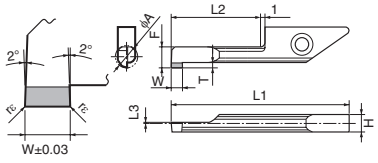
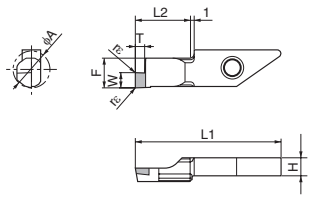
Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed Insert shows Right-hand)	Description		Min. Bore Dia.	Dimension (mm)							No. of Edges	PCD		Ref. Page for Applicable Toolholders
			ϕA	H	L1	L2	F	S	rε			KPD001	KPD010	
 Micro Boring	VNBR	0411-02NB	4	3.9	30.8	11	3.5	0.5	0.2		1	R	R	F26 F27
		0420-02NB			39.8	20						R	R	
	VNBR	0511-02NB	5	3.9	30.8	11	4.5	0.7	0.2			R	R	
		0520-02NB			39.8	20						R	R	
	VNBR	0620-02NB	6	3.9	39.8	20	5.3	1.0	0.2			R	R	
		0630-02NB			49.8	30						R	R	
	VNBR	0720-02NB	7	3.9	39.8	20	6.2	1.0	0.2			R	R	
		0730-02NB			49.8	30						R	R	

System Tip-Bars

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

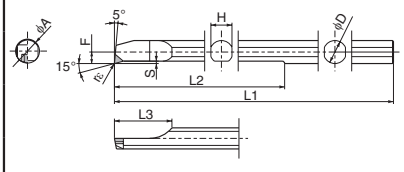
Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed Insert shows Right-hand)	Description		Min. Bore Dia.	Dimension (mm)									No. of Edges	PCD		Ref. Page for Applicable Toolholders
			ϕA	W	rε	H	L1	L2	L3	F	T			KPD001	KPD010	
 Micro Grooving	VNGR	0410-11NB	4	1.0	0.05	3.9	30.8	11	0.1	3.5	0.8		1	MTO	MTO	F26 F27
		0420-11NB		2.0	0.10									MTO	MTO	
	VNGR	0510-11NB	5	1.0	0.05	3.9	30.8	11	0.1	4.4	1.0			MTO	MTO	
		0520-11NB		2.0	0.10									MTO	MTO	
	VNGR	0610-20NB	6	1.0	0.05	3.9	39.8	20	0.3	5.2	1.8			MTO	MTO	
		0620-20NB		2.0	0.10									MTO	MTO	
	VNGR	0710-20NB	7	1.0	0.05	3.9	39.8	20	0.3	6.2	2.0			MTO	MTO	
		0720-20NB		2.0	0.10									MTO	MTO	
 Micro Face Grooving	VNFGR	0820-10NB	8	2.0	0.05	3.9	39.8	10	-	7.3	2.0		1	MTO	MTO	
		0830-10NB	8	3.0							3.0			MTO	MTO	

Tip-Bars

N	Non-ferrous Metals (with interruption)	●	
	Non-ferrous Metals (without interruption)	●	
S	Titanium Alloys (with interruption)	●	
	Titanium Alloys (without interruption)	●	

Edge Prep.	
PCD all items	Sharp Edge

Insert (Handed Insert shows Right-hand)	Description		Min. Bore Dia.	Dimension (mm)								No. of Edges	PCD		Ref. Page for Applicable Sleeve
			ϕA	ϕD	H	L1	L2	L3	F	S	rε		KPD001	KPD010	
	PSB R/L	0404-60NBS	4	3.8	3.6	60	30	10	1.9	0.3	0.05	1	R	R	F35
		0505-70NBS	5	4.8	4.4	70	40	12	2.4	0.5			R	●	
		0606-70NBS	6	5.8	5.2		45		2.9				R	R	
		0707-80NBS	7	6.8	6.2	80	50		3.4				R	R	

● : Std. Item (1 pc boxes)
R : Std. Item (Right-hand Only)
MTO : Made to order

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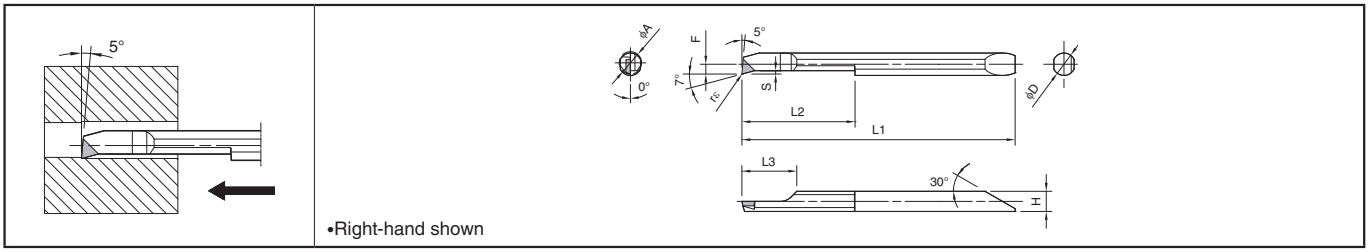
EZ Bars (EZB-NB type: PCD) NEW



•Right-hand shown

●EZ Bars dimensions

N	Non-ferrous Metals (with interruption)	●
	Non-ferrous Metals (without interruption)	●
S	Titanium Alloys (with interruption)	●
	Titanium Alloys (without interruption)	●

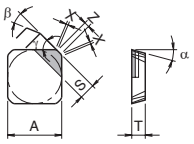
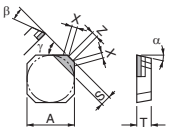
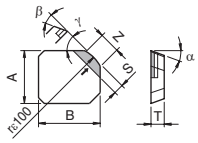
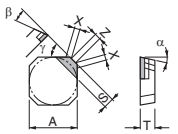
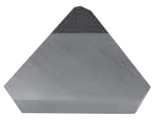
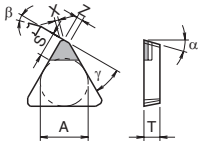
Edge Prep.	
PCD all items	Sharp Edge

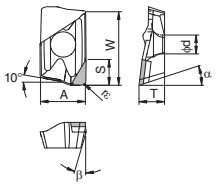
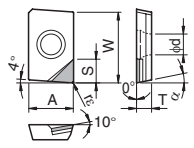
Description		Min. Bore Dia.	Dimension (mm)									No. of Edges	PCD		Ref. Page for Applicable Sleeve
		φA	φD	H	L1	L2	L3	F	S	rε			KPD001		
EZBR	040040-003NB	4	4	3.6	48.8	20	9.8	1.75	0.5	0.035 $^{\pm 0.015}$		1	●		F18 ~ F23
	050050-003NB	5	5	4.6	58.1	25	9.8	2.25	0.5				●		
	060060-003NB	6	6	5.6	66.1	30	11.8	2.75	0.5				●		
	070070-003NB	7	7	6.6	74.1	35	11.8	3.25	0.5				●		

● : Std. Item (1 pc boxes)

CBN & PCD Tools are sold in 1 piece boxes

Milling Inserts

Edge Prep.		N	Non-ferrous Metals (with interruption)																
PCD all items	Sharp Edge	S	Titanium Alloys (with interruption)																
Insert		Description		Dimension (mm)						Angle(°)			No. of Edges	PCD			Ref. Page for Applicable Toolholders
				A	T	X	Z	S		α	β	γ		KPD001	KPD010	KPD230	
		SDKN	1203AUFN-NE	12.70	3.18	0.5	1.2	3.1		15°	23°	45°	1	●			M37
			1203AUFN					3.6						●	●		
		SEEN	1203AFFN-NE	12.70	3.18	0.5	1.4	3.0		20°	25°	45°	1	●			M32
																	M33
			1203AFFN					3.5						●	●		M34
 With Wiper Edge		SEEN	1203AFFR-W	12.50	3.18	-	3.5	1.7	B= 14.56	20°	25°	45°	1	●			M34
		SOKN	13T3AXFN-NE	13.494	3.97	0.4	1.1	3.0		27°	32°	45°	1			●	M38
		TEEN	1603PTFR-NE	9.525	3.18	0.6	1.4	4.1		20°	22°	30°	1	●		●	M109
			1603PTFR					4.7						●	●		
		TEKN	2204PTFR-NE	12.70	4.76	0.7	1.8	4.2		20°	22°	30°	1	●		●	M62
			2204PTFR					4.8						●	●		M63

Insert		Description		Dimension (mm)						Angle(°)			No. of Edges	PCD			Ref. Page for Applicable Toolholders
				A	T	ϕd	W	rε	S	α	β			KPD001	KPD010	KPD230	
		BDMT	11T302FR	6.7	3.8	2.8	11.0	0.2	3.6	18°	13°		1	●		●	M66
			11T304FR					0.4						●		●	M67
		BDMT	170402FR	9.6	4.9	4.4	17.0	0.2	4.4	18°	13°		1	●		●	M68
			170404FR					0.4						●		●	M69
		NDCW	150302FRX-NE	9.525	3.18	4.4	15.0	0.2	5.1	15°	-		1	●		●	M107
			150302FRX						5.7					●	●		

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