

The KOHER Company Identity Symbol represents Korea,
the hub of Northeast Asia, spreading out to the world with 4 ways



Courage to
challenge



Creative
spirit



Faith & Trust
in Humanity



Honesty



Headquarter

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Factory / R&D Center

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PCBN [NX/HS/TS] PCD Diamond [SCD/ Mono] Insert Series

KB404 | KB504 | KB601 | KB604 | KB620
KB902 | KB951 | KB952
KP01E | KP05 | KP10 | KPM | KPC
SCD | Mono



KOHER PCBN [NX/HS/TS] PCD & SCD Insert Series

www.kohertech.com



PCD Chip Breaker Inserts



CBN Chip Breaker Inserts



Diamond Inserts



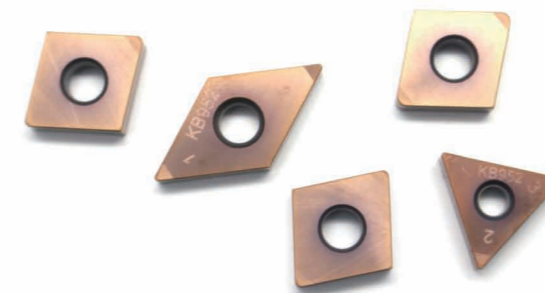
Holder & Cutter



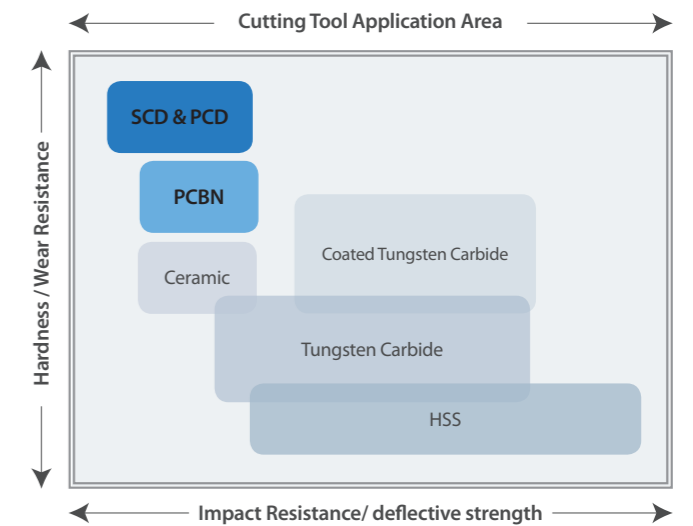
PCD & CBN Grooving Inserts



PCD & CBN ISO Turning Inserts



CBN Coating inserts



CBN Application

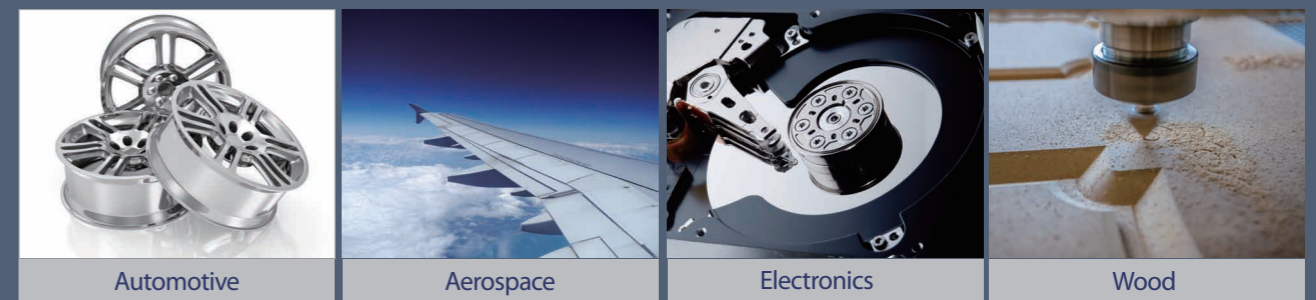


Automotive

Aerospace

- | | | | |
|---|--|--|--|
| <p>Cast Iron</p> <ul style="list-style-type: none"> • Engine Block • Brake Disc • Clutch Plates • Rolls • Pumps | <p>Hardened Steel</p> <ul style="list-style-type: none"> • Gears • Transmission parts • Gear shafts • Bearing, Hub • Dies, Punches | <p>Powder Metal</p> <ul style="list-style-type: none"> • Valve Seat • Con-rods • Oil-pumps | <p>Super Alloy</p> <ul style="list-style-type: none"> • Turbine blades • Turbine vane |
|---|--|--|--|

PCD Application



Automotive

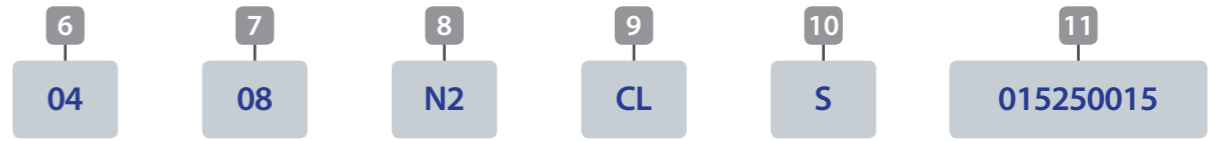
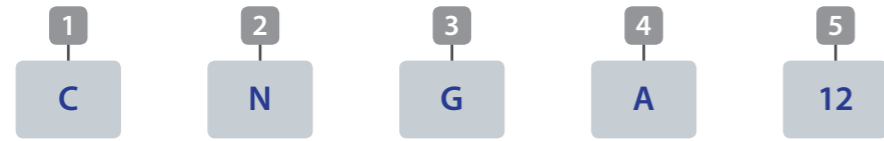
Aerospace

Electronics

Wood

- | | | | |
|--|--|---|---|
| <p>Aluminum alloy</p> <ul style="list-style-type: none"> • Transmission Case • Aluminum Alloy wheels • Pistons • Cylinder heads | <p>Aluminum alloy & Others</p> <ul style="list-style-type: none"> • Airplane wings • Turbine blades | <p>Aluminum alloy & Others</p> <ul style="list-style-type: none"> • PCB • Mobile phone casing • Hard disk casing • DVD Cover | <p>Woods</p> <ul style="list-style-type: none"> • Furniture • Wood floor |
|--|--|---|---|

ISO Identification Table



1 Insert Shape

C	D	E	K	L
R	S	T	V	W

2 Relief Angle

B	C	D	E
F	N	P	O
			Special

3 Tolerance

	Inscribed Circle Diameter (d)	Corner Height (m)	Thickness (t)
H	±0.013	±0.013	±0.025
G	±0.025	±0.025	±0.13
M	±0.05 ~ ±0.15	±0.08 ~ ±0.20	±0.3

4 Screw Hole Type

A	T	W
N	X	
	Special	

5 Inscribed Circle Diameter

ISO							Inscribed circle diameter (mm)
C	D	S	T	R	V	W	
03	04	03	06	03	-	02	3.97
04	05	04	08	04	08	03	4.76
05	06	05	09	05	09	03	5.56
-	-	-	-	06	-	-	6.00
06	07	06	11	06	11	04	6.35
08	09	07	13	07	13	05	7.94
-	-	-	-	08	-	-	8.00
09	11	09	16	09	16	06	9.525
-	-	-	-	10	-	-	10.00
11	13	11	19	11	19	07	11.11
-	-	-	-	12	-	-	12.00
12	15	12	22	12	22	08	12.70
14	17	14	24	14	24	09	14.29
16	19	15	27	15	27	10	15.875
-	-	-	-	16	-	-	16.00
17	21	17	30	17	30	11	17.46
19	23	19	33	19	33	13	19.05
-	-	-	-	20	-	-	20.00
22	27	22	38	22	38	15	22.225
-	-	-	-	25	-	-	25.25
25	31	25	44	25	44	17	25.40
32	38	31	54	31	54	21	31.75
-	-	-	-	32	-	-	32.00

6 Thickness

	Cutting edge height (mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52
11	11.11
12	12.70

7 Corner Radius

	Cutting edge height (mm)
01	0.1
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
28	2.8
32	3.2
00	Round
MO	Round

8 Corner Detail

	Corner Detail
M	Regrinding Type
N	One Use type
N2	2 corner
N4	4 corner
HS	Half Solid Type
HS2	2 corner
HS4	4 corner
HS6	6 corner
TS	Tip Solid Type
TS2	2 corner
TS4	4 corner
TS6	6 corner
W	Wiper Insert

9 Chip breaker Type

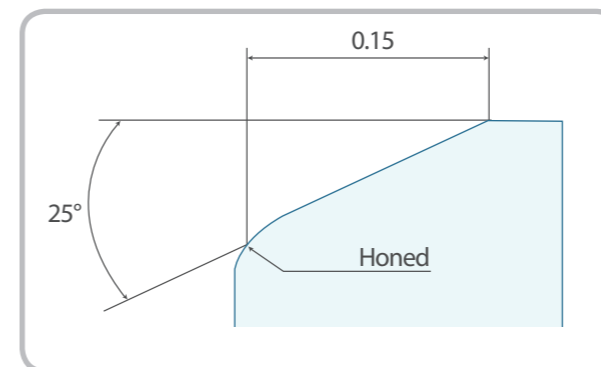
Shape	Detail
CL	Laser Chip Breaker Type
CG	Grinding Chip Breaker Type
CC	Combined Chip Breaker Type

10 Chip breaker Design

Shape	Chip breaker Type
R	Roughing Process
S	General Process
F	Finishing Process

11 CBN Edge Size

Application	Grade	High Speed	Standard	Strong
Hardened Steel	KB404, KB504, KB601, KB604, KB620	01020010	015250020	020300025
Sintered Alloy & Cast Iron	KB901, KB902, KB951	010150000	015200005	020250010

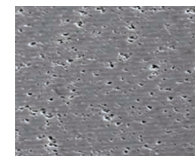


015	25	0015
Land width	Land Angle	Honing
0.15mm	25°	0.015mm

KOHER PCD Grade

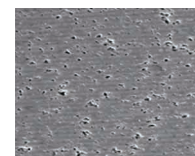
KOHER PCD Grade

KOHER PCD line-up provides you various choices with grades for your non-ferrous material machining with long tool life.



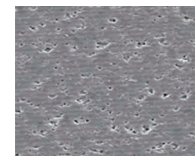
KP01E [$<1\mu\text{m}$]

Super fine grade provides stable wear-resistance for precision machining of non-ferrous metals and non-metals.
- Low silicon aluminum alloy & Titanium machining



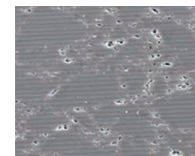
KP05 [$6\mu\text{m}$]

General purpose with fine surface finishing.
- Graphite, Copper alloy
- Wood composites



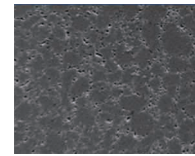
KP10 [$10\mu\text{m}$]

Good wear resistance and toughness. General use, high speed cutting of aluminum alloy.
- $<14\%$ silicon aluminum alloy



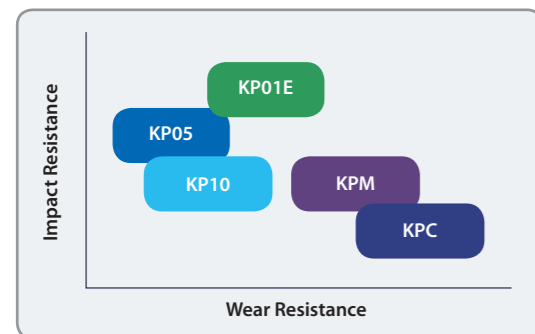
KPC [$25\mu\text{m}$]

Higher wear resistance and impact resistance. Suitable for hard to cut materials with wear.
- $>14\%$ Silicon aluminum alloy
- Sintered tungsten carbide



KPM [$4 + 25\mu\text{m}$]

Higher impact and wear resistance. Bi-modal mixed grain structure.
- Stone sawing
- $>14\%$ Silicon aluminum alloy



Machinability	Work piece Material	Turning		Milling
		Roughing	Finishing	
Good ↑ ↓ Difficult	Sintered Aluminum	Si $<14\%$	KP01E	
		Si $>14\%$	KPM, KPC	
	Aluminum Die casting	Si $<14\%$	KP10	KP05
		Si $>14\%$	KPM, KPC	

Material	Process	Grade Recommendation	Speed [m/min]	Feed [mm/rev]	Depth of Cut [mm]
Aluminum alloy 4-8% Si	Turning	KP01E / KP05 / KP10	900 - 3,500	0.1 - 0.4	0.1 - 4.0
Aluminum alloy 4-8% Si	Milling	KP01E / KP05 / KP10	1,000 - 5,000	0.1 - 0.3	0.1 - 3.0
Aluminum alloy $<14\%$ Si	Turning	KP01E/KP05/KP10/KPM	600~2,400	0.1 - 0.4	0.1 - 4.0
Aluminum alloy $>14\%$ Si	Milling	KP10 / KPM / KPC	300 - 700	0.1 - 0.3	0.1 - 3.0
Aluminum alloy $>14\%$ Si	Turning	KP10 / KPM / KPC	300 - 700	0.1 - 0.4	0.1 - 4.0
Aluminum alloy $>14\%$ Si	Milling	KP10 / KPM / KPC	400 - 900	0.1 - 0.3	0.1 - 3.0
Copper, Zinc, Brass	Turning / Milling	KP01E / KP05 / KP10	400 - 1,200	0.03 - 0.3	0.05 - 2.0

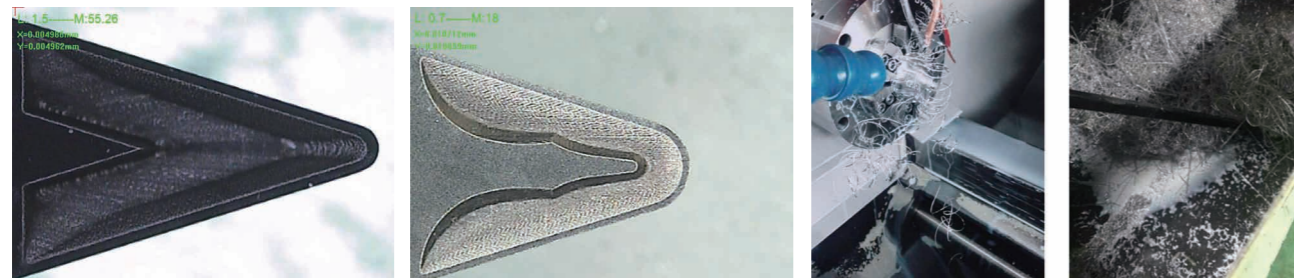
KOHER PCD Turning Series

Image	CNMA	Dimension (mm)				Grade				
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
	CNMA120402/04/08	5.0	12.7	4.76	0.2/0.4/0.8	■		■		
	DNMA	Dimension (mm)				Grade				
	DNMA120402/04/08	5.0	12.7	4.76	0.2/0.4/0.8	■		■		
DNMA150602/04/08	5.0	12.7	6.35	0.2/0.4/0.8	■		■			
	TNMA	Dimension (mm)				Grade				
	TNMA160402/04/08	4.5	9.525	4.76	0.2/0.4/0.8	■		■		
	VNMA	Dimension (mm)				Grade				
	VNMA160402/04/08	6.0	9.525	4.76	0.2/0.4/0.8	■		■		
	CCMT	Dimension (mm)				Grade				
	CCMT060202/04/08	3.2	6.35	2.38	0.2/0.4/0.8	■		■		
CCMT09T302/04/08	4.2	9.525	3.97	0.2/0.4/0.8	■		■			
	CPMT	Dimension (mm)				Grade				
	CPMT060202/04/08	3.2	6.35	2.38	0.2/0.4/0.8	■		■		
CPMT090302/04/08	4.2	9.525	3.18	0.2/0.4/0.8	■		■			
	DCMT	Dimension (mm)				Grade				
	DCMT070202/04/08	3.2	6.35	2.38	0.2/0.4/0.8	■		■		
DCMT11T302/04/08	4.2	9.525	3.97	0.2/0.4/0.8	■		■			
	TCMT	Dimension (mm)				Grade				
	TCMT110302/04/08	3.2	6.35	3.18	0.2/0.4/0.8	■		■		
	TPMT	Dimension (mm)				Grade				
	TPGW060102/04	3.2	3.97	1.59	0.2/0.4	■		■		
TPMW090202/04/08	3.2	5.56	2.38	0.2/0.4/0.8	■		■			
	VBMT	Dimension (mm)				Grade				
	VBMT110302/04/08	4.5	6.35	1.6	0.2/0.4/0.8	■		■		
VBMT160402/04/08	6.0	9.525	4.76	0.2/0.4/0.8	■		■			
	VCMT	Dimension (mm)				Grade				
	VCMT110302/04/08	4.5	6.35	1.6	0.2/0.4/0.8	■		■		
	VCMT	Dimension (mm)				Grade				
	VCMT110302/04/08	4.5	6.35	1.6	0.2/0.4/0.8	■		■		
VCMT160402/04/08	6.0	9.525	4.76	0.2/0.4/0.8	■		■			

Special Series – PCD Chip breaker

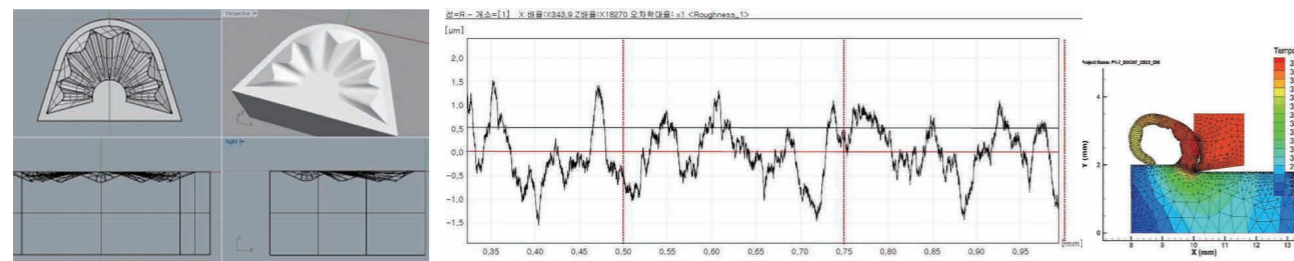
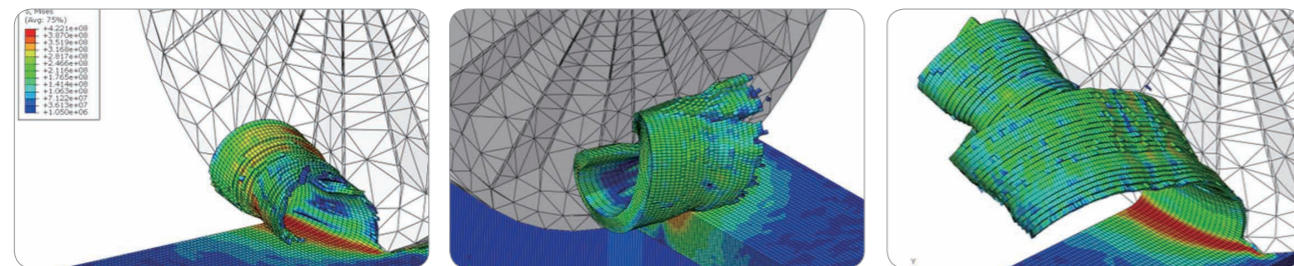
KOHER Z Series- Laser Chip breaker

KOHER PCD Laser Chip breaker system is widely being used for non-ferrous material machining process with various designs meeting customer's each different request in each different work environment.



KOHER R&D Center

With various experiences and know-how, KOHER R&D Center provides technical solution and feedback for your excellent machining performance. We analyze customer's main problem and produce new customized design with various trials via simulation software.



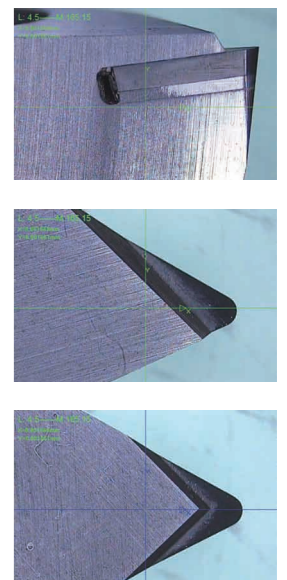
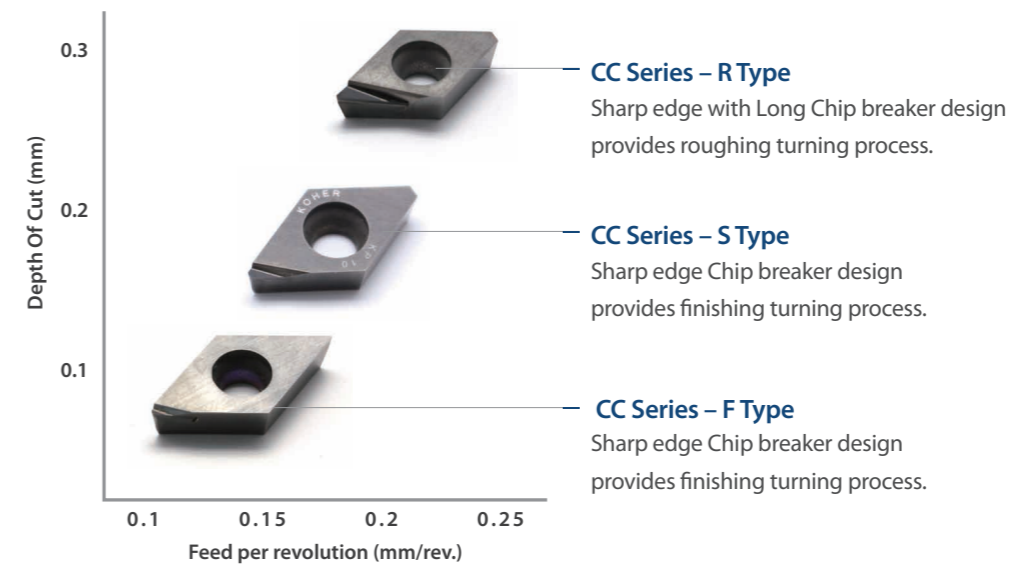
DCMT	Dimension (mm)				Grade				
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
DCMT070202/04/08	3.0	6.35	2.38	0.2/0.4/0.8					
DCMT11T302/04/08	5.0	9.525	3.97	0.2/0.4/0.8					

VBMT	Dimension (mm)				Grade				
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
VBMT110302/04/08	4.5	6.35	3.18	0.2/0.4/0.8					
VBMT160402/04/08	6.0	9.525	4.76	0.2/0.4/0.8					

Special Series – PCD Chip breaker

C Series PCD Combined Type Chipbreaker

C Series PCD Chip breaker is KOHER's unique own PCD Chip breaking designed insert with great chip control ability. By inserting PCD edge into carbide body, we can provide you with different size and direction of design meeting our customer's request.



DCMT	Dimension (mm)				Grade				
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
DCMT070202/04/08	3.2	6.35	2.38	0.2/0.4/0.8					
DCMT11T3042/04/08	3.2	9.525	3.97	0.2/0.4/0.8					

VBMT	Dimension (mm)				Grade				
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
VBMT110302/04/08	4.5	6.35	1.6	0.2/0.4/0.8					
VBMT160402/04/08	6.0	9.525	4.76	0.2/0.4/0.8					

VCMT	Dimension (mm)				Grade				
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
VCMT110302/04/08	4.5	6.35	1.6	0.2/0.4/0.8					
VCMT160402/04/08	6.0	9.525	4.76	0.2/0.4/0.8					

PCD Milling & Grooving Insert

PCD Milling insert

KOHER is producing PCD milling inserts with high precision technology and high efficiency. Both ISO and Special inserts are available.



Image	APKT	Dimension (mm)				Grade				
		Diameter(D)	Thickness(t)	Bottom hole	Corner R	KP01E	KP05	KP10	KPM	KPC
	APKT11T3□□□□	6.457	3.60	2.85	-					
	APKT1604□□□□	9.525	4.76	4.40	-					
	Order Made									
Image	CDEW	Dimension (mm)				Grade				
		Diameter(D)	Thickness(t)	Bottom hole	Corner R	KP01E	KP05	KP10	KPM	KPC
	CDEW1204□□□□	12.7	4.76	4.40	-					
	Order Made									
Image	SNEW	Dimension (mm)				Grade				
		Diameter(D)	Thickness(t)	Bottom hole	Corner R	KP01E	KP05	KP10	KPM	KPC
	SNEW09T3□□□□	9.525	3.97	4.40	-					
	SNEW1203□□□□	12.7	3.18	5.50	-					
	SNEW1204□□□□	12.7	4.76	6.00	-					
	Order Made									

PCD Grooving insert

PCD Grooving Insert

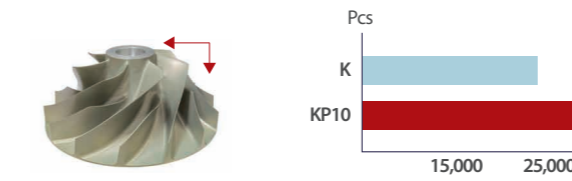
KOHER PCD grooving line up is giving you better surface roughness and much longer tool life in various aluminum part grooving process.



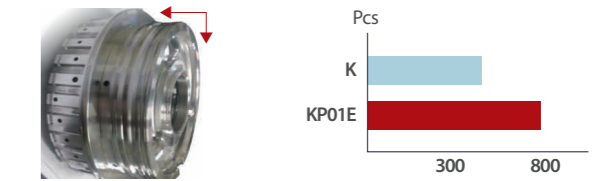
Image	MN	Dimension (mm)				Grade				
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
	MN	4.5	6.35	1.6	0.2/0.4/0.8/1.2					
	Order Made									
Image	GBA	Dimension (mm)				Grade				
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
	GBA32R/L 125-010	1.25	2.0	3.18	0.1/0.2					
	Order Made									
Image	TKF	Dimension (mm)				Grade				
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KP01E	KP05	KP10	KPM	KPC
	TKF12 R/L 200-AS	2.0	10	3	0.1					
	TKF12 R/L 250-AS	2.5	10	4	0.1					
	Order Made									

KOHER PCD Insert Applications

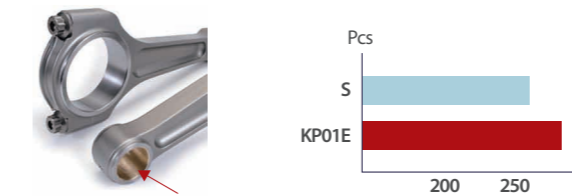
KOHER's Success Story – Aluminum parts



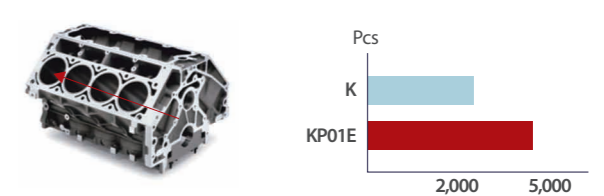
KOHER	DCGW11T304 KP10
Material	Aluminum Turbo Charger
Cutting Process	OD Turning
Speed , N	3,000 m/min
Feed	0.2 mm/rev
Depth of Cut	0.5 mm



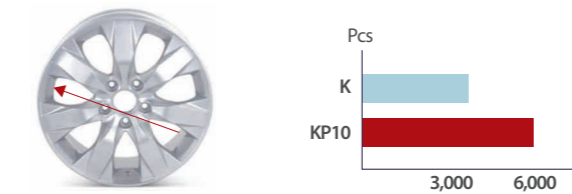
KOHER	DCGW11T304 KP01E
Material	Aluminum Si – 14%, 6 Gear Housing
Cutting Process	Cutting plane, ODTurning, Ø132
Speed , N	1,120 m/min
Feed	0.1~0.3 mm/rev
Depth of Cut	0.4 mm



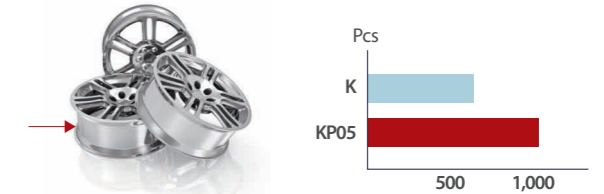
KOHER	SPGN090310 KP01E
Material	Brass , Connecting Rod Bushing
Cutting Process	ID Boring
Speed , N	400 m/min
Feed	0.2~0.5 mm/rev
Depth of Cut	0.5 mm



KOHER	SNEW1204ADTR KP01E
Material	Al + Cl Bi Metal, Engine Block
Cutting Process	Milling, Wet cut
Speed , N	300m/min
Feed	0.1 mm/rev
Depth of Cut	0.5 mm



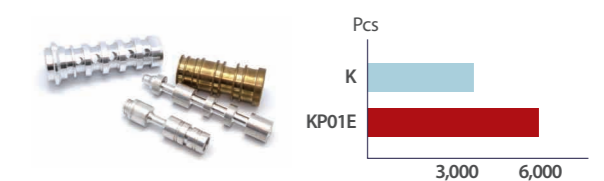
KOHER	VCMT160408 K10
Material	Aluminum, Alloy Wheel
Cutting Process	OD Turning
Speed , N	2,000 m/min
Feed	0.3 mm/rev
Depth of Cut	0.2~0.3 mm



KOHER	PCD 2R Special Bite KP05
Material	Aluminum, Alloy Wheel Rim
Cutting Process	ID Turning
Speed , N	3,500 m/min
Feed	0.4 mm/rev
Depth of Cut	0.2~0.3 mm



KOHER	CNGX120404 KPM
Material	Aluminum, Piston Diesel engine
Cutting Process	Guide Bore Finishing
Speed , N	1,000 m/min
Feed	150 mm/rev
Depth of Cut	0.2~0.3 mm



KOHER	GTDR250SK KP01E
Material	A601, Aluminum Valve Spool
Cutting Process	400 m/min
Speed , N	N/A
Feed	0.2~0.3 mm/rev
Depth of Cut	0.2~0.3 mm

KOHER's NEW CBN Line up

KOHER HS / TS / Coating Series

KOHER Half CBN Solid(HS) and Tip CBN Solid(TS) Series will give you the best performance from continuous to high interrupted turning process which frequently cause severe damage from the high impact turning.



KOHER HS CBN Series



Corner Management System

Numbering corner on each side of tips would show you how to identify used corner easily.

Medium impact resistance

Half Tip Brazed CBN insert tip is offering you the best cost-effective solution for mid-interrupted turning process.

KOHER TS CBN Series



KOHER's TS Series Design

Unique CBN tip design with stronger vacuum brazing system.

KOHER's TS New Grade

Non-Coating - KB601
Coating - KB601N

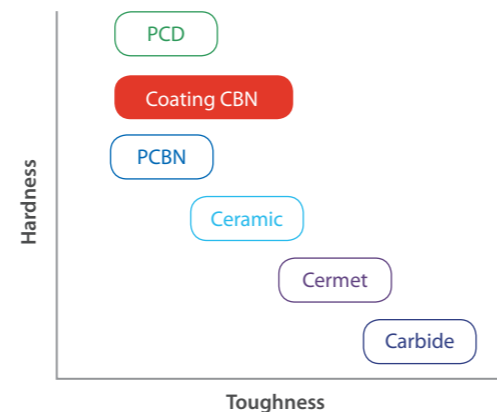
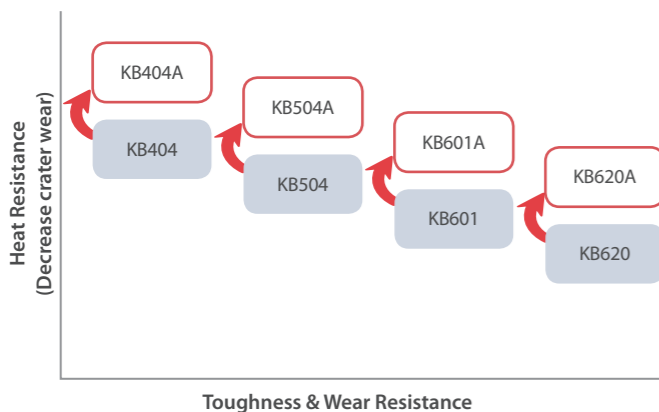
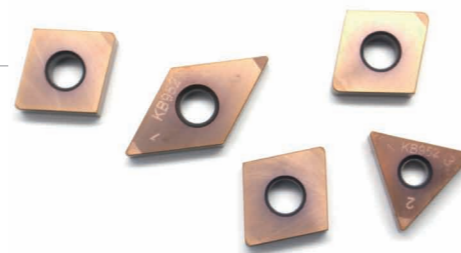
Impact resistance

Solid Tip Brazed CBN insert tip for high interrupted turning process.

KOHER Coated CBN Series

Coating Series

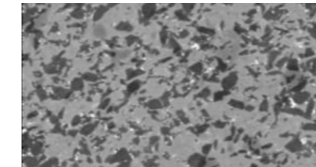
KOHER's New Coating Series line up is now available. Not only providing you ISO Standard inserts, but also suggesting you to choose various coating grade in order to meet your tool life improvement.



KOHER HARD TURNING CBN Guide

Grade Information

KB404

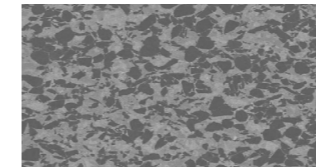


KOHER's KB404 NX Series Design

Strong performance for Continuous Hard Turning process which causes wear and heat problem. Suitable for both wet and dry process.

Type	NX
CBN Content	40%
CBN Grain Size	2-3µm
Bond	TiCN

KB504

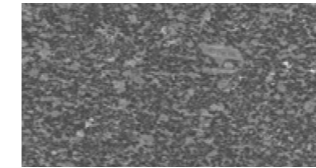


KOHER's KB504 NX Series Design

Strong performance for Continuous Hard Turning process which causes wear and heat problem.

Type	NX
CBN Content	50%
CBN Grain Size	1-4µm
Bond	TiCN

KB601

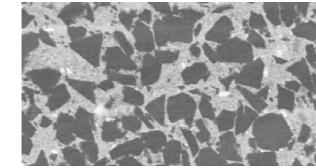


KOHER's KB601 NX,HS,TS Series Design

Unique CBN tip design with stronger vacuum brazing system. Optimized for light interrupted cut.

Type	NX, HS, TS
CBN Content	60~65%
CBN Grain Size	1µm
Bond	TiCN

KB604

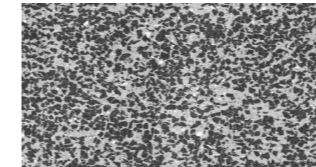


KOHER's KB604 NX Series Design

60% CBN tip for continuous to medium cut of hardened steel with superior flank wear resistant.

Type	NX
CBN Content	60-65%
CBN Grain Size	2-4µm
Bond	TiCN

KB620



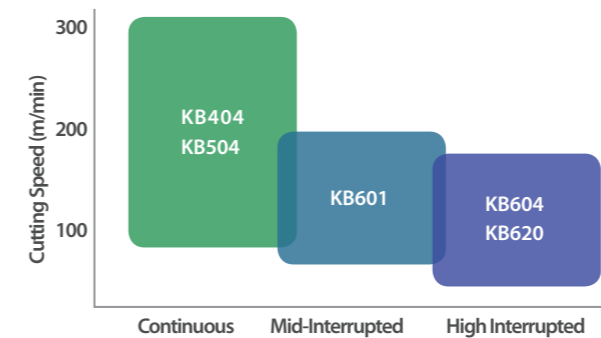
KOHER's KB620 NX,HS,TS Series Design

KOHER's stronger Tip Solid for High Speed interrupted cut.

Type	NX, HS, TS
CBN Content	60%
CBN Grain Size	2µm
Bond	TiCN

*KOHER is continuously developing New CBN grades for our customers, please contact us for further information.

Grade Applications



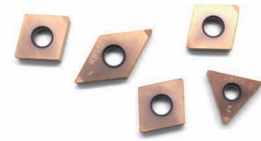
Work Material	Hardness	V (m/min)	Depth (mm)	Feed (mm/rev)	Grade
Hardened Steel	>55 HRC	80 - 120	0.3 - 1.5	0.08 - 0.2	KB404 / KB504 / KB604 / KB620
	<55 HRC	80 - 150	0.5 - 2.0	0.1 - 0.25	KB504 / KB604 / KB620

KOHER Coating CBN Series Grade

KOHER's Coating Line-up

TiN, TiAlN, AlTiN and KOHER's Special Nano Coating line up is available.

KBC Series



Coating Details

- N – TiN Coating
- A – AlCrN Coating
- T – AlTiN Coating
- S – KOHER Super Coating [Special]

N Series [TiN] - Gold

Titanium Nitride is general coating for edge retention and corrosion resistance on machine tooling. This is widely used in high content CBN or carbide drills.

A Series [AlCrN] - Grey

This coating performs great on machining with high impact and wear resistance which reduces especially flank wear and cutting edge wear in wide range of cutting condition.

T Series [AlTiN] - Blue black

T series is the most suitable coating for general hard turning of hardened steel machining with wide range of lubrication conditions. It also shows great works on stainless steel and nickel alloys.

Coating S [Special]

Coating S, the special type, is providing excellent performance on hard-to-cut material machining process with multi-layered coating on CBN.

KOHER High Contents CBN Series Grade

KB902

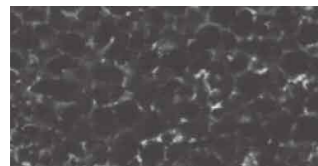


KOHER's KB902 NX Series Design

90% CBN tip for interrupted purpose of Cast Iron / Sintered Alloy machining process.

Type	NX
CBN Content	90%
CBN Grain Size	1µm
Bond	TiCN

KB951



KOHER's KB951 NX Series Design

95% CBN tip for continuous to medium cut of Cast Iron / Sintered Alloy with good wear resistant.

Type	NX
CBN Content	95%
CBN Grain Size	3µm
Bond	Titanium alloy

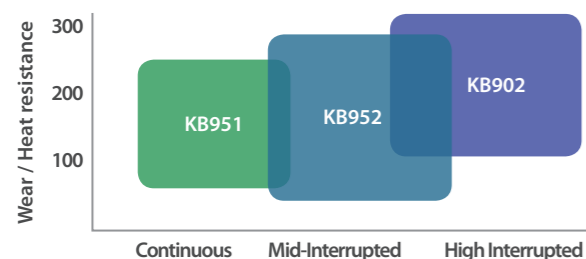
KB952



KOHER's KB952 NX Series Design

Rough or Semi-finishing process of Cast Iron / Sintered alloy turning and milling process.

Type	NX
CBN Content	95%
CBN Grain Size	3µm
Bond	Titanium alloy



Work Material	Grade	Cutting Speed (m/min)	Depth (mm)	Feed (mm/rev)
Cast Iron / Sintered Alloy	KB902	400 - 1700	0.08 - 0.2	1.0 - 2.0
	KB951	400 - 1900	0.2 - 1.2	0.08 - 0.4
	KB952	400 - 1700	0.2 - 2.0	0.08 - 2.0

KOHER CBN Guide

KOHER Code Information

CNGA	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
CNGA120402/04/08	4.2	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						
CNGA120402/04/08N2	3.0	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						
CNGA120402/04/08N4	3.0	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						
CNGA120402/04/08TS4	2.6	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						

DNGA	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
DNGA150402/04/08	4.5	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						
DNGA150402/04/08N2	3.5	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						
DNGA150402/04/08HS2	3.5	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						
DNGA150402/04/08TS4	2.4	12.7	1.6	0.2 / 0.4 / 0.8	■	■	■						

TNGA	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
TNGA160402/04/08	4.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
TNGA160402/04/08N3	3.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
TNGA160402/04/08HS3	3.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
TNGA160402/04/08TS6	2.3	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						

VNGA	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
VNGA160402/04/08	6.0	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
VNGA160402/04/08N2	4.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
VNGA160402/04/08HS2	4.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
VNGA160402/04/08TS4	2.3	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						

CCGW	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
CCGW09T302/04/08	4.2	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
CCGW09T302/04/08N2	3.0	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
CCGW09T302/04/08HS2	3.2	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						

DCGW	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
DCGW11T302/04/08	5.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
DCGW11T302/04/08N2	3.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						
DCGW11T302/04/08HS2	3.5	9.525	1.6	0.2 / 0.4 / 0.8	■	■	■						

TPGW	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
TPGW110302/04/08	4.5	6.35	1.6	0.2 / 0.4 / 0.8	■	■	■						
TPGW110302/04/08N3	3.5	6.35	1.6	0.2 / 0.4 / 0.8	■	■	■						
TPGW110302/04/08HS3	3.5	6.35	1.6	0.2 / 0.4 / 0.8	■	■	■						

VBGW	Dimension (mm)				Grade								
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952	KB Coating
VBGW110302/04/08	4.5	6.35	1.6	0.2 / 0.4 / 0.8	■	■	■						
VBGW110302/04/08N2	4.5	6.35	1.6	0.2 / 0.4 / 0.8	■	■	■						
VBGW110302/04/08HS2	4.5	6.35	1.6	0.2 / 0.4 / 0.8	■	■	■						

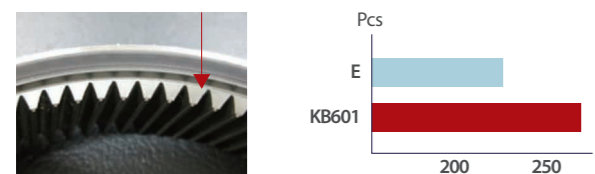
※ Please contact us for special tools as well.

KOHER CBN Guide

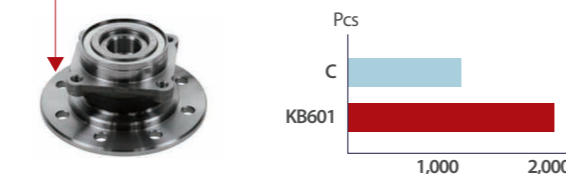
KOHER Solid CBN Grade

Image	CNGA	Dimension (mm)				Grade			
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB902S	KB951S	KB952S	KB Coating
	CNGN120404/08/12	-	12.7	4.76	0.4/0.8/1.2				
Image	TNGN	Dimension (mm)				Grade			
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB902S	KB951S	KB952S	KB Coating
	TNGN110304/08/12	-	6.35	3.18	0.4/0.8/1.2				
Image	SNGN	Dimension (mm)				Grade			
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB902S	KB951S	KB952S	KB Coating
	SNGN090304/08/12	-	9.525	3.18	0.4/0.8/1.2				
	SNGN120404/08/12	-	12.7	4.76	0.4/0.8/1.2				
Image	RNGN	Dimension (mm)				Grade			
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB902S	KB951S	KB952S	KB Coating
	RNGN090300	-	9.525	3.18	-				
	RNGN120300	-	12.7	3.18	-				
	RNGN120400	-	12.7	4.76	-				

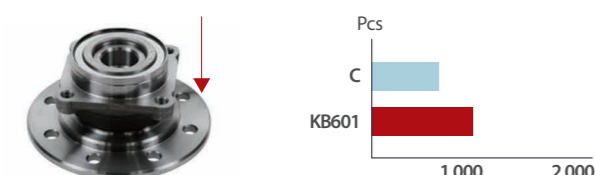
KOHER's Success Story



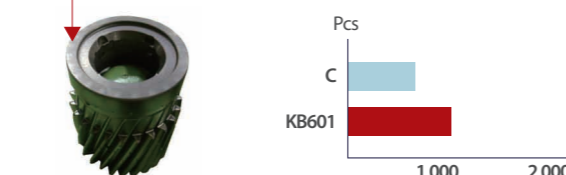
KOHER	CNGA120408N2 KB601
Material	SCR420H1, Middle Gear
Hardness (HRC)	60 – 63
Speed	180 m/min
Feed	0.12mm/rev
Depth of Cut	0.1



KOHER	DNGA150408-TS4 KB601
Material	S55CR, Bearing Hub
Hardness (HRC)	58 – 62
Speed	200 m/min, 1890
Feed	0.2mm/rev
Depth of Cut	0.1



KOHER	DNGA150412-TS4 KB601
Material	S55CR, Bearing Hub
Hardness (HRC)	58-62
Speed / N	180m/min, 770
Feed	0.15mm/rev
Depth of Cut	0.1

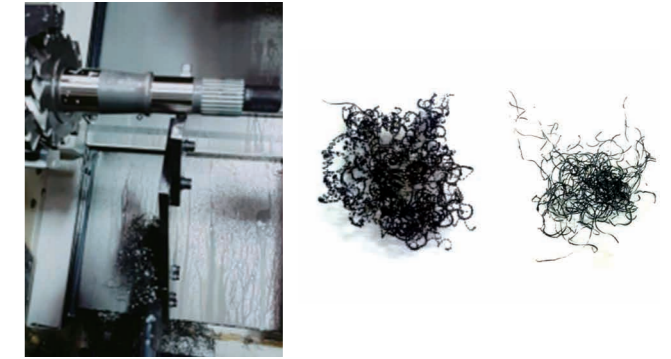
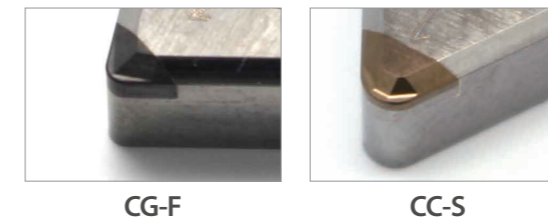


KOHER	TPGN110312 KB601A
Material	SCM620-His, Sun Gear
Coolant	Yes
Speed	120m/min
N	1024
Feed	0.08
Depth of Cut	0.5

Special Series - CBN Chip breaker Insert

KOHER CBN Chip breaker Insert Series

Long chip could be jammed during machining and it would damage your product. KOHER has 2 different types of CBN Chip breaker line-up on G Series.



G Series CBN Grinding Type Chipbreaker

KOHER G Series

KOHER CBN Grinding Type Chipbreaker system for Hardened steel Continuous Turning Process. From each different shape to coating, various Chipbreaker design can be applied to your hard turning process.

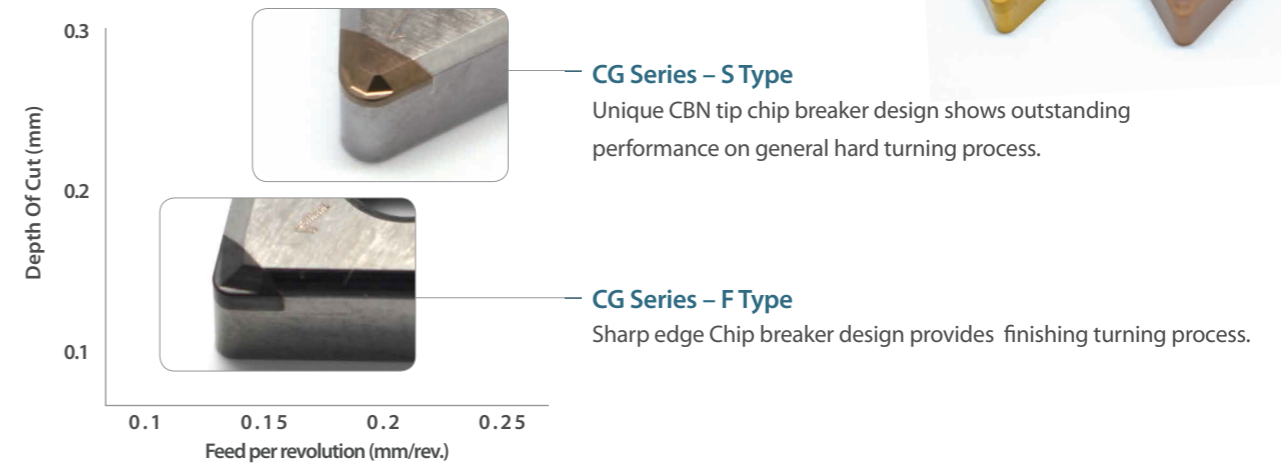
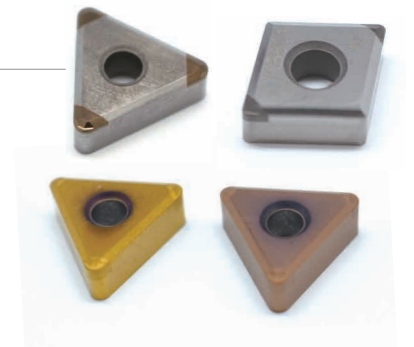


Image	CNGA	Dimension (mm)				Grade					
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB651	KB604	KB Coating
	CNGA120402/04/08-CGS/F	4.2	12.7	1.6	0.2/0.4/0.8						

Image	DNGA	Dimension (mm)				Grade					
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB651	KB604	KB Coating
	DNGA150402/04/08-CGS/F	4.5	12.7	1.6	0.2/0.4/0.8						

Image	TNGA	Dimension (mm)				Grade					
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB651	KB604	KB Coating
	TNGA160402/04/08-CGS/F	4.5	9.525	1.6	0.2/0.4/0.8						

Image	VNGA	Dimension (mm)				Grade					
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB651	KB604	KB Coating
	VNGA160402/04/08-CGS/F	6.0	9.525	1.6	0.2/0.4/0.8						

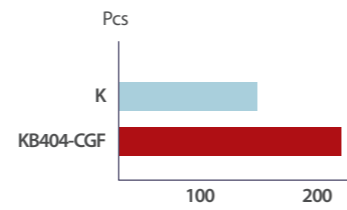
Special Series - CBN Chip breaker Insert

Image	Code	Dimension (mm)				Grade					
		Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	KB404	KB504	KB601	KB651	KB604	KB Coating
	CCGW	4.2	9.525	1.6	0.2 / 0.4 / 0.8			■			
CCGW09T302/04/08 - CGS/F											
	DCGW	5.5	9.525	1.6	0.2 / 0.4 / 0.8			■			
DCGW11T302/04/08 - CGS/F											
	VBGW	4.5	6.35	1.6	0.2 / 0.4 / 0.8			■			
VBGW110302/04/08 - CGS/F											

KOHER's Success Story - Chipbreaker G type [CGF]

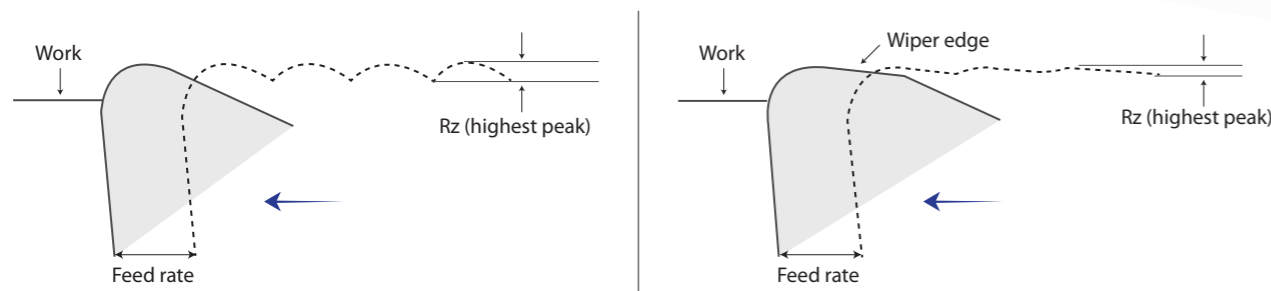


KOHER	DNGA 150408N2- CG, KB404 Rough cut
Material	SCM420HB, GEAR
Hardness (HRC)	58-63
Speed, N	1800rpm
Feed	0.085 - 0.15mm/rev
Depth of Cut	0.08 - 0.1mm



KOHER Wiper Insert Series

KOHER CBN Wiper insert is providing great quality of surface roughness performance during brake disc, bearing and all kinds of turning process. Wiper series with large radius added to the part out right next to nose radius can be applied to either right or left side.



Simple Radius Type

Wiper

	Standard R Insert (R0.8)		KOHER Wiper Insert (R0.8)	
	Finishing process (f=0.15mm/rev)	Fast Feed Process (f=0.3mm/rev)	Finishing process (f=0.15mm/rev)	Fast Feed Process (f=0.3mm/rev)
Surface roughness (Rz)	3.5µm	9.5µm	0.6µm	1.0µm

KOHER - PCD & CBN Notch Bite Series

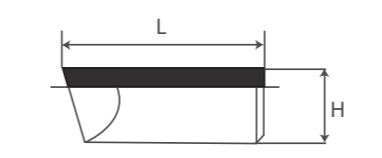
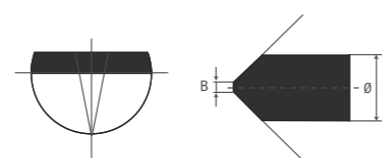
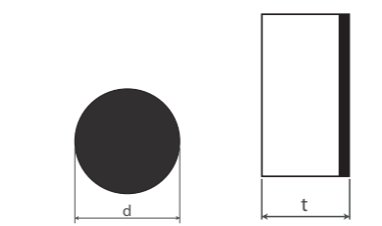
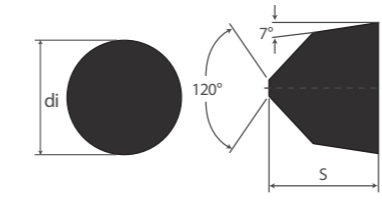
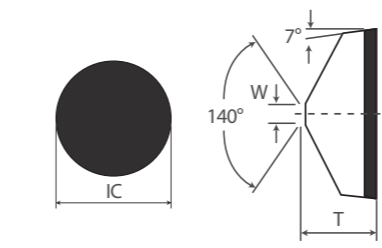
KOHER New Line up - Notch Bite Series

KOHER Notch Bite Series

Special order made Notch Bite Series line-up is now available for your request of Carbide and Cast Iron roll notching in steel industry. KOHER provides you good quality of products with many experiences. RCGX, RNMN full top and solid insert as well as PCD/CBN Notch bites are all available.



KOHER - PCD & CBN Notch Bite Series



RCGX	Dimension (mm)			Grade		
	Diameter(D)	Thickness(t)	Width (mm)	KB902	KB951	KB952
RCGX060300	6.350	3.18	0.73			
RCGX090300	9.525	3.18	0.75			
RCGX110400	11.400	4.76	1.00			
RCGX120400	12.700	4.76	1.00			
Order Made						

RCGX Solid	Dimension (mm)			Grade		
	Diameter(D)	Thickness(t)	Width (mm)	KB902	KB951	KB952
RCGX060400	6.350	4.76	120			
RCGX060600	6.350	6.35	120			
RCGX060700	6.350	7.94	120			
RCGX110400	11.400	4.76	120			
RCGX120400	12.700	4.76	120			
Order Made						

RNMN	Dimension (mm)		Grade		
	Diameter(D)	Thickness(t)	KB902	KB951	KB952
RNMN060200	6.350	3.18			
RNMN060300	6.350	3.18			
RNMN060400	6.350	4.76			
RNMN090300	9.520	3.18			
RNMN120300	12.700	9.18			
RNMN120400	12.700	4.76			
RNMN120600	12.700	6.35			
Order Made					

PCD FT	Dimension (mm)				Grade		
	Diameter(D)	L (mm)	B (mm)	H (mm)	KP10	KPM	KPC
N10	3.00	3.00	1.00	2.50			
N12	4.00	4.00	1.20	3.00			
N14	5.00	5.00	1.40	3.50			
N16	5.00	5.00	1.60	3.50			
N18 ~ N22	6.00	6.00	1.80	4.00			
N22 ~ N25	8.00	8.00	2.20	5.00			
Order Made							

Special Series - CBN Grooving & Form Tool

KOHER Grooving Series

Special order made Grooving Series line-up is now available for your request of Hardened steel and Cast Iron work piece. KBG Bites are specially made to perfectly machine Automobile Valve Seats on Cylinder block

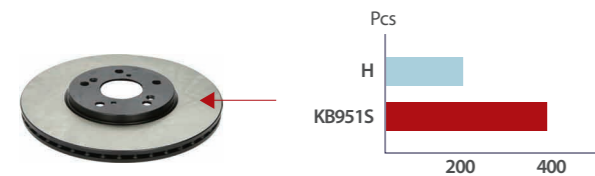


KG	Dimension (mm)					Grade							
	Width	R	Relief Angle		Back Taper Angle	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952
			Top	Side									
KG□-R□□□□□□□□□□	1.5-5.0	0.4-0.8	6	5	1-2								
Order Made													

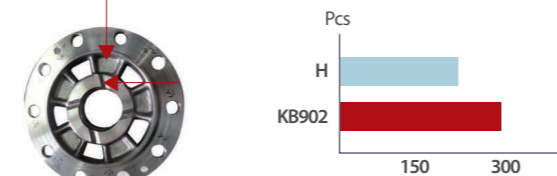
KDG	Dimension (mm)					Grade							
	Width	R	Relief Angle		Back Taper Angle	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952
			Top	Side									
KDG□-R□□□□□□□□□□	1.5-5.0	0.4-0.8	6	5	1-2								
Order Made													

KGV	Dimension (mm)					Grade							
	Width	R	Relief Angle		Back Taper Angle	KB404	KB504	KB601	KB604	KB620	KB902	KB951	KB952
			Top	Side									
KGV□-R□□□□□□□□□□	1.5-5.0	0.4-0.8	6	5	1-2								
Order Made													

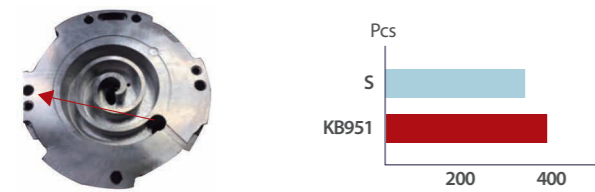
KOHER's Success Story – Cast iron parts



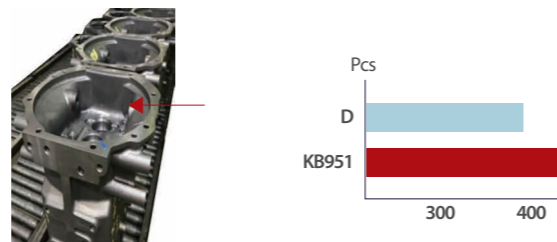
KOHER	CNMN120412 KB951S
Material	FC170HD, Brake
Cutting Process	OD Turning
Speed / N	4,000m/min
Feed	0.08mm/rev
Depth of Cut	0.05mm



KOHER	DCGW11T308N2 KB901
Material	FCD500, Differential Case Cover
Cutting Process	Cutting plane, ID Boring, Finishing
Speed / N	280m/min
Feed	0.04~0.1mm/rev
Depth of Cut	0.2mm



KOHER	SNEW1203-WR KB951
Material	FCD600, Cast Iron, Scroll comp
Cutting Process	Face milling
Speed / N	840m/min
Feed	6,000mm/tooth
Depth of Cut	4mm



KOHER	SNEW1203-WR KB951
Material	FCD600, Cast Iron, Engine Case
Cutting Process	Face milling
Speed / N	840m/min
Feed	6,000mm/tooth
Depth of Cut	4mm

Special Series - Diamond Insert

KOHER SCD & Mono Insert Series

For more accurate and precise machining of your non-ferrous product such as aluminum, copper, zinc and brass, here we have Single Crystal Diamond & Mono Crystalline Diamond Insert line-up. KOHER provides you various special diamond insert items for your demands.



SCD & Mono	Dimension (mm)				Grade	
	Cutting Edge Length(l)	Diameter(D)	Thickness(t)	Corner R	SCD	MD
CCGW09T302/04/08	4.2	9.525	1.6	0.2 - 2.0		
DCGW11T302/04/08	5.5	9.525	1.6	0.2 - 2.0		
VBGW110302/04/08	4.5	6.35	1.6	0.2 - 2.0		
Order Made						

Automobile Tools

There are thousands of big and small single parts required to make one car in each various production line. Especially Alloy Wheels and DC motors industry require higher precision technology on part making process.



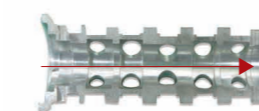
KOHER Armature Tools for DC Motor

- Natural & Mono Diamond Bite
- Natural Diamond V-Block

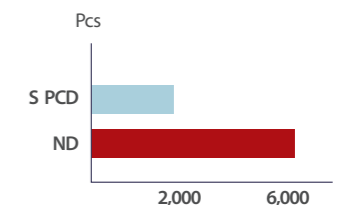


Mirror Facing Bite and inserts for Alloy Wheel

- Mono Crystal Bite : 1.2R / 2R / 3R
- Insert type / Solid type



KOHER	TPGW080202 ND
Material	A6061, Fuel Injection Control Valve
Surface Roughness	Below Ra2.0, No burr
Speed, N	4,000 m/min
Feed	0.08 mm/rev
Depth of Cut	0.05 mm



KOHER GRADE COMPARISON TABLE

KOHER TECHNICAL GUIDANCE

KOHER PCD GRADE COMPARISON TABLE

WORK	KOHER	Sumitomo	KYOCERA	NTK	SECO	KENAMETAL	MITSUBISHI	SANDVIK
N01	KP01E KP05	DA1000 DA90	KPD001	PD1	-	KD1400	MD205	CD05 CD10
N10	KP01E KP05 KP10	DA1000 DA150	KPD001 KPD010 KPD230	PD2	PCD05 PCD10	KD1400 KD1425	MD205 MD220	CD1810
N20	KP05 KP10 KPM	DA1000 DA2200	KPD230	PD2	PCD05 PCD20	KD1400 KD1425	MD220 MD230	-
N30	KPC KPM	DA1000 DA2200	-	-	PCD05 PCD30 PCD30M	KD1400	MD2030 MD230	-

KOHER CBN GRADE COMPARISON TABLE

WORK	KOHER	Sumitomo	KYOCERA	NTK	TAEGUTEC	SECO	KENAMETAL	MITSUBISHI	SANDVIK
STEEL	KB404	BN1000 BNC100	KBN510	B421K	TB610	CBN060K CBN010	KB1610	MB825	CB20
	KB404 KB504	BNC200 BNX20	KBN525 KB25M	B521K	TB650			MB810 MB8025	CB7015
	KB504 KB601 KB651	BNC160 BNC200 BN2000	KBN510 KB05M	B421K	TB670	CBN150 CBN160C	KB5610 KB5625	MB810 MB8025	CB20 CB7025
	KB601 KB651	BNX25 BNC300 BN350	KB35M	B422K	TB650			MB835	CB7035
CAST IRON	KB902 KB951 KB952	BN700 BN7000 BN7500 BNS800	KBN570 KBN70M KBN60M KBN900	B205K B230K B300K	TB730 KB90A KB90	CBN200 CBN300 CBN500 CBN300P	KB1340 KB1345 KB9640 KB1630	MB710 MB730 MB4020 MB5140	CB7525

CBN Trouble Shooting FAQ

My insert got chipping on edge!

- Inserts need to be chamfered and honed more on edge.
 > Increase land size!
- Check if there is a vibration.

It looks like a flank wear!

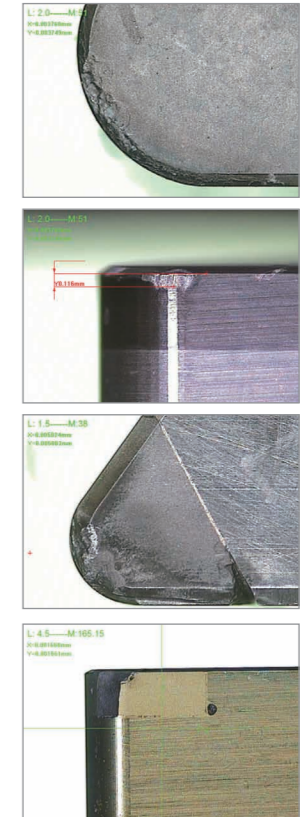
- Increase cutting speed, feed rate and depth of cut.
- Check tool center height.
- Check workpiece content – Ferrite content rate.

It looks like a crater wear!

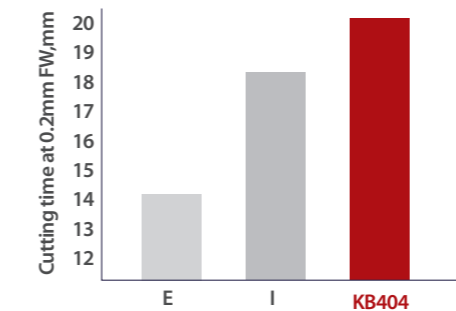
- Reduce cutting speed and feed rate.
- Reduce land size on edge.
- Use KOHER Coating Series Inserts.
- Check if you could use coolant in continuous process.

My CBN was broken!

- Adjust cutting tool center height.
- Check if the tool setting parts [clamps/Anvil] were worn.
- Choose tougher grade of CBN.



Wear Performance reference, Bearing



Work – Bearing [100Cr6], HRc 60-62
 CNGA120408N2 KB404
 Vc = 130m/min, ap = 0.25mm, f=0.1mm/rev, Dry cut

KOHER CBN Inquiry Guidance

What kinds of information should I give you to choose the best CBN for my machine

Workpiece Material

- Case Hardening, Thru Hardening etc
- Rockwell hardness – ex> 58-62 HRc
- Grade information – ex> SUJ2

Cutting conditions

- Speed, Feed rate, Depth of Cut etc.

Application

- Turning, Milling, Grooving etc.

Reason to change or try?

- Tool life problem?
 Burr, Wear, Chipping, Surface roughness etc.