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Turning Indexable Inserts Identification System

Symbol	Insert
H	Hexagon
O	Octagon
P	Pentagon
S	Square
T	Triangle
C	80° Diamond
D	55° Diamond
E	75° Diamond
F	50° Diamond
M	86° Diamond
J	70° Diamond
V	35° Diamond
Z	25°/15° Diamond
W	80° Trigon
L	Rectangle
A	85° Parallelogram
B	82° Parallelogram
K	55° Parallelogram
R	Round

Shown angle stands for acute angle for diamond and parallelogram inserts.

Symbol	Relief Angle
A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°

Symbol Class	Tolerance					
	Corner Height		Thickness		I.C. Size	
	ANSI (±inch)	ISO (±mm)	ANSI (±inch)	ISO (±mm)	ANSI (±inch)	ISO (±mm)
A	0.0002	0.005	0.0010	0.025	0.0010	0.025
F	0.0002	0.005	0.0010	0.025	0.0005	0.013
C	0.0005	0.013	0.0010	0.025	0.0010	0.025
H	0.0005	0.013	0.0010	0.025	0.0005	0.013
E	0.0010	0.025	0.0010	0.025	0.0010	0.025
G	0.0010	0.025	0.0050	0.130	0.0010	0.025
J	0.0002	0.005	0.0010	0.025	0.002~0.006	0.05~0.15
K*	0.0005	0.013	0.0010	0.025	0.002~0.006	0.05~0.15
L*	0.0010	0.025	0.0010	0.025	0.002~0.006	0.05~0.15
M*	0.003~0.007	0.080~0.180	0.0050	0.130	0.002~0.006	0.05~0.15
N*	0.003~0.007	0.080~0.180	0.0010	0.025	0.002~0.006	0.05~0.15
U*	0.005~0.015	0.130~0.380	0.0050	0.130	0.003~0.009	0.08~0.25

*Insert's periphery is as fired.
Tolerance difference depends on size and shape of insert

Symbol	Hole	Hole Shape	Chipbreaker	Insert
N	No	-	No	
R			One Side	
F			Two Sides	
A	With Hole	-	No	
M			One Side	
G	With Hole	-	Two Sides	
W	With Hole and One Countersink 40°~60°	-	No	
T			One Side	
Q	With Hole and Two Countersink 40°~60°	-	No	
U			Two Sides	
B	With Hole and One Countersink 70°~90°	-	No	
H			One Side	
C	With Hole and Two Countersink 70°~90°	-	No	
J			Two Sides	
X	-	-	-	-

ISO
Metric



ANSI
Inch



⑤ Edge Length Symbol (ISO)							I.C. Size (mm)	⑤ I.C. Size (ANSI)	
C	D	S	R	A	W	I.C. Size (inch)		Symbol	
03	04		03	06		3.97	5/32	1.2	
04	05		04	08	08	4.76	3/16	1.5	
		05				5			
05	06		05	09		5.56	7/32	1.8	
		06			03	6			
06	07		06	11	11	6.35	1/4	2	
08	09		07	13		7.94	5/16	2.5	
		08			05	8			
09	11	09	09	16	16	9.525	3/8	3	
		12			06	10			
		12				12			
12	15	12	12	22	22	12.7	1/2	4	
16	19	15	15	27	27	15.875	5/8	5	
		16				16			
19	23	19	19	33	33	19.05	3/4	6	
		20			13	20			
22	27		22	38		22.225	7/8	7	
		25				25			
25	31	25	25	44	44	25.4	1	8	
32	38	31	31	54	54	31.75	1-1/4	10	
		32				32			

⑥ Thickness Symbol			
ISO		ANSI	
Thickness (mm)	Symbol	Thickness (inch)	Symbol
1.59	01	1/16	1
1.98	T1	5/64	1.2
2.38	02	3/32	1.5
2.78	T2	-	-
3.18	03	1/8	2
3.97	T3	5/32	2.5
4.76	04	3/16	3
5.56	05	7/32	3.5
6.35	06	1/4	4
7.94	07	5/16	5
9.525	09	3/8	6

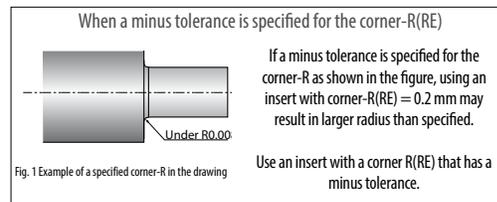
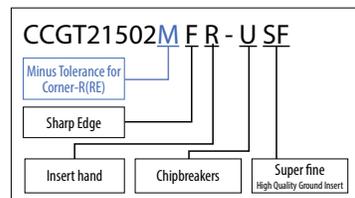
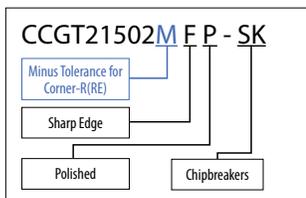
Thickness displayed as the distance between bottom surface and highest point on cutting edge.

⑦ Corner-R (RE) Symbol			
ISO		ANSI	
Corner-RE (mm)	Symbol	Corner-RE (inch)	Symbol
Sharp Edge	00	0.000	00
0.03	003	0.001	0.1
0.05	005	0.002	0.13
0.10	01	0.004	0.2
0.20	02	0.008	0.5
0.40	04	1/64	1
0.80	08	1/32	2
1.20	12	3/64	3
1.60	16	1/16	4
2.00	20	5/64	5
2.40	24	3/32	6
2.80	28	7/64	7
3.20	32	1/8	8
Round Insert	00 (Inch) or M0 (Metric)	Round Insert	

⑧ Manufacturer's Option
Hand Symbol, Chipbreaker, Symbol, Etc.

- Expressed as edge length for ISO.
- ANSI expresses the inscribed circle diameter in inches.

Positive Inserts Identification System



Insert Color

*Newer grades in red are recommended

Cermet

Grades	Cermet									CVD Coated Cermet	MEGACOAT NANO cermet				MEGACOAT Cermet		PVD coated cermet
	TN610	TN620	TN620M	TN6020	TN60	TN90	TN100M	TC40N	TC60M	CCX	PV710	PV720	PV730	PV60M	PV7005	PV7040	PV90
Insert Color																	

CVD Coated Carbide

Grades	CVD Coated Carbide																	
	CA310	CA315	CA320	CA410K	CA415K	CA415D	CA520D	CA420M	CA45 Series	CA510	CA515	CA025P	CA525	CA530	CA55 Series	CA65 Series	CR9025	CA115P
Insert Color																		

PVD Coated Carbide

Grades	MEGACOAT NANO					MEGACOAT NANO PLUS		MEGACOAT HARD		MEGACOAT				PVD Coated Carbide					MEGACOAT TOUGH		MEGACOAT NANO EX		
	PR1510	PR1515	PR1525	PR1535	PR1625	PR1705	PR1725	PR005S	PR015S	PR1210	PR1215	PR1225	PR1230	PR905	PR915	PR930	PR1025	PR1115	PR115S	PR120S	PR1810	PR1825	PR1835
Insert Color																							

Ceramic

Grades	Aluminum Oxide Ceramic			PVD Coated Ceramic		MEGACOAT Ceramic		Silicon Nitride Ceramic		CVD Coated Silicon Nitride Ceramic		SiAlON Ceramic		Whisker Reinforced Ceramic	
	KA30	A65	KT66	A66N		PT600M		KS6015	KS6050	CS7050		KS6030	KS6040	KS001	
Insert Color															

CBN & PCD

Grades	CBN				PCD			MEGACOAT TOUGH CBN / MEGACOAT CBN			PVD Coated CBN
	KBN475	KBN510	KBN525	KBN570	KPD001	KPD010	KPD230	KBN010	KBN020	KBN..M	KBN015
Insert Color											

DLC Coated Carbide

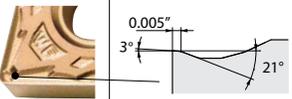
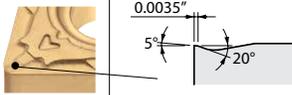
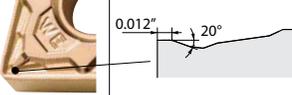
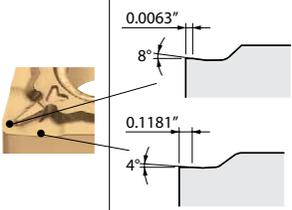
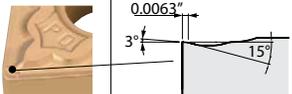
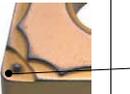
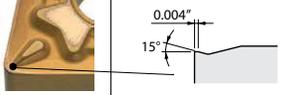
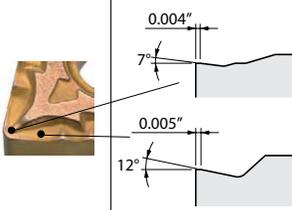
Grades	DLC Coated Carbide		
	PD1010	PD1015	PD1025
Insert colour			

Uncoated Carbide

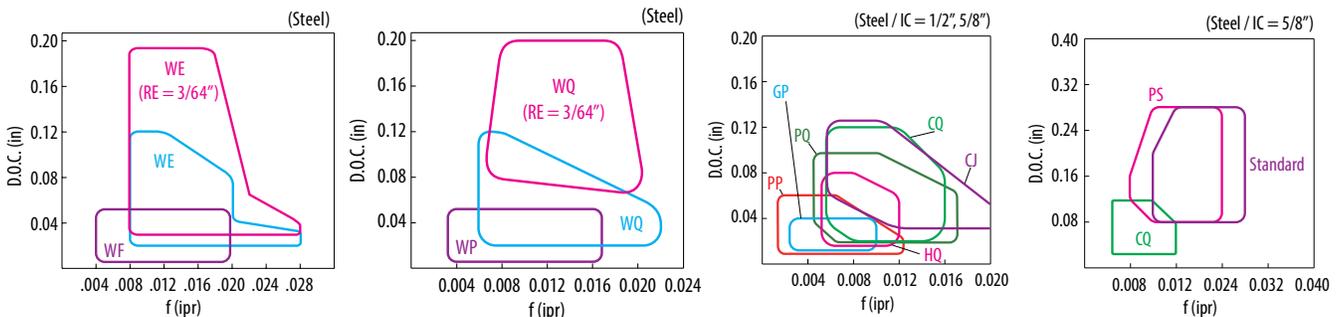
Grades	Carbide				
	GW05	GW15	GW25	KW10	SW05
Insert colour					

Chipbreaker Selection (Negative Inserts)

Steel (Molded Chipbreaker)

Cutting Range	Name	Design	Advantages
Finishing	WF		<ul style="list-style-type: none"> • Wiper insert • Good chip control in finishing operations • Excellent surface finish by controlling adhesion • Less cutting force due to sharp cutting edge
Finishing	WP		<ul style="list-style-type: none"> • Wiper insert • Good chip control at small depths of cut
Finishing - Medium	WE		<ul style="list-style-type: none"> • Wiper insert • Good surface finish at high feed rates • High productivity with smooth chip control in a wide range of applications
Finishing - Medium	WQ		<ul style="list-style-type: none"> • Wiper insert • Double feed rate possible while maintaining a smooth finish • High efficiency and good chip control
Finishing	PP		<ul style="list-style-type: none"> • 3-step dot structure creates stable chip control in a wide range of feed rates • Less cutting force due to sharp cutting edge and smooth rake face
Finishing - Medium	PQ		<ul style="list-style-type: none"> • Stable chip control in a wide feed rate range by breaking chips effectively • Well-balanced edge sharpness and toughness
Finishing	GP		<ul style="list-style-type: none"> • Finishing to light machining • Good chip control
Finishing - Medium	HQ		<ul style="list-style-type: none"> • Sharp cutting performance with 3-D rake angle and double projection design
Finishing - Medium	CQ		<ul style="list-style-type: none"> • Good chip control for varying depths of cut such as copying • Applicable for up facing

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

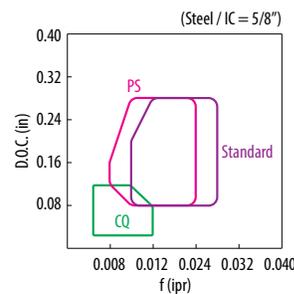
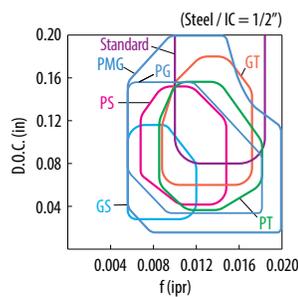
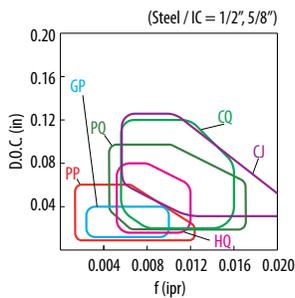


Chipbreaker Selection (Negative Inserts)

Steel (Molded Chipbreaker)

Cutting Range	Name	Design	Advantages
Finishing - Medium / up facing	CJ		<ul style="list-style-type: none"> Improved chip curling in small depth and high feed rate machining Improved chip evacuation when copying and up facing
Medium - Roughing	PMG		<ul style="list-style-type: none"> Covers a wide range of machining applications from medium machining to roughing Excellent wear resistance with low cutting force design Reduces chip shape inconsistencies and improves tool life
Medium - Roughing	PG		<ul style="list-style-type: none"> Stable machining with good balance of edge sharpness and strength Prevents chip dogging at high feed rate Good chip control at low feed rates Stable machining with wide chip control range
Medium - Roughing	GS		<ul style="list-style-type: none"> Strong edge chipbreaker Stable for continuous machining and light interrupted machining
Medium - Roughing	PS		<ul style="list-style-type: none"> General purpose chipbreaker More stable due to large contact surface
Medium - Roughing / High Feed Rate	PT		<ul style="list-style-type: none"> Low cutting force during high feed machining Land support structure
Medium - Roughing / High Feed Rate	GT		<ul style="list-style-type: none"> Strong edge chipbreaker Wide land design and smooth chip control even at high feed rate machining
Roughing (No Callout)	Standard		<ul style="list-style-type: none"> Low cutting force and suitable for large D.O.C. roughing

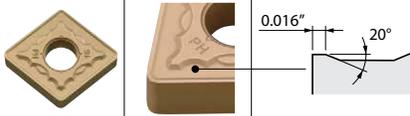
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

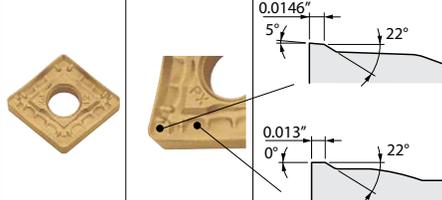


Chipbreaker Selection (Negative Inserts)

B
TURNING
INSERTS

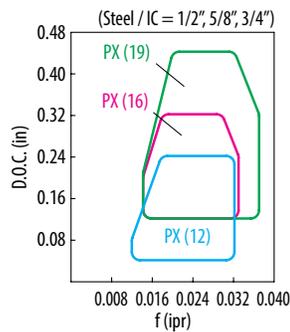
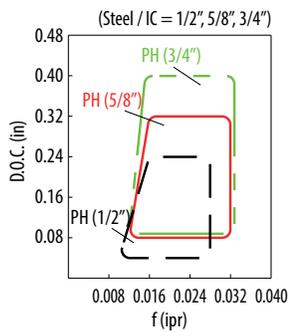
Steel (Molded Chipbreaker)

Cutting Range	Name	Design	Advantages
Roughing	PH		<ul style="list-style-type: none"> • Suitable for heavily interrupted machining and for workpieces with scale due to strong cutting edge

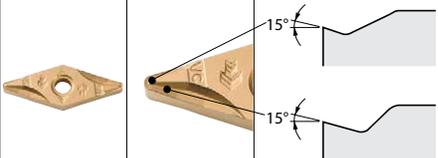
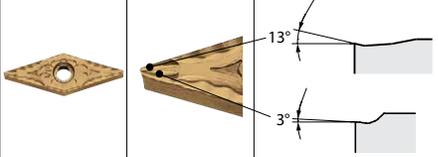
Cutting Range	Name	Design	Advantages
Roughing (High Feed Rate)	PX		<ul style="list-style-type: none"> • Roughing and high feed rate operation • Low cutting force chipbreaker

Single-Sided

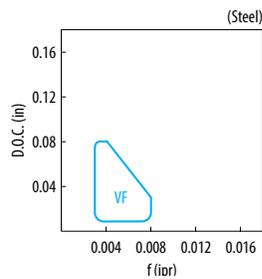
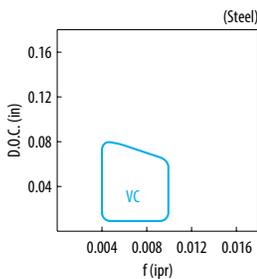
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Steel (Copying / Undercutting, Varied D.O.C.)

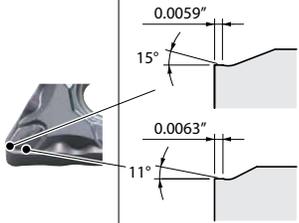
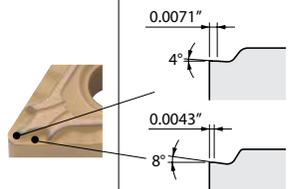
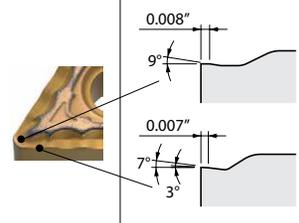
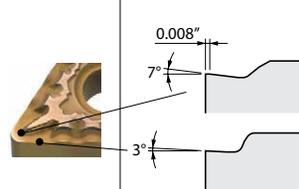
Cutting Range	Name	Design	Advantages
Finishing - Medium	VC		<ul style="list-style-type: none"> • Handed chipbreaker for copying • Good chip control at varied D.O.C. because of the large space on the main cutting edge side
Finishing - Medium	VF		<ul style="list-style-type: none"> • Good chip control at varied D.O.C. such as copying and undercutting

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

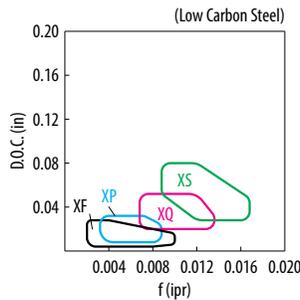


Chipbreaker Selection (Negative Inserts)

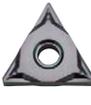
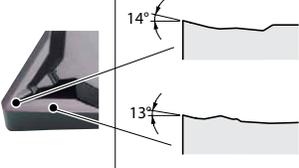
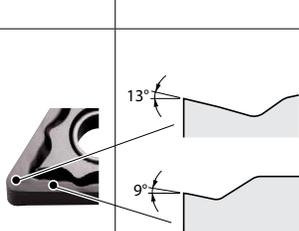
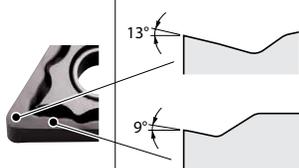
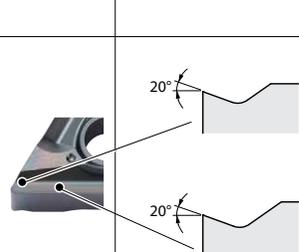
Low Carbon Steel (Pipe, Rolled Plate, Rolled Steel)

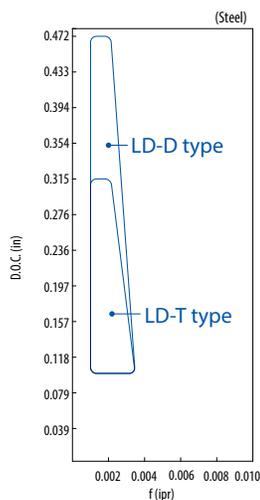
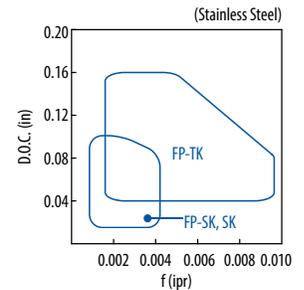
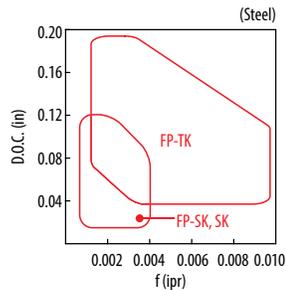
Cutting Range	Name	Design		Advantages
Finishing	XF		 <p>0.0059" 15° 0.0063" 11°</p>	<ul style="list-style-type: none"> • Excellent chip control at high speed and small D.O.C. machining of low carbon steel
			<p>0.0071" 4° 0.0043" 8°</p>	<ul style="list-style-type: none"> • Short chips due to sharp cutting and special design
Medium	XQ		 <p>0.008" 9° 0.007" 7° 3°</p>	<ul style="list-style-type: none"> • Consistent chip breaking due to moderate rake face and special design
			<p>0.008" 7° 3°</p>	<ul style="list-style-type: none"> • Consistent chip breaking due to special rake face and rake angle design

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Steel / Stainless Steel (Small Parts Machining)

Cutting Range	Name	Design		Advantages
Finishing - Medium	SK		 <p>14° 13°</p> <p>- FP-SK: Polished Sharp Edge - SK: Honed</p>	<ul style="list-style-type: none"> • Machining in automatic lathes • Sharp cutting performance equivalent to positive inserts • 2-step dot design provides reliable chip control at various ap
			<p>13° 9°</p>	<ul style="list-style-type: none"> • Good in automatic lathes (When machining workpieces of medium to large diameter) • Superior cutting performance achieved by sharp edge and polished surface • Smooth chipbreaker geometry improves chip flow with less adhesion • Large curled chips
Medium - Roughing	FP-TK			<ul style="list-style-type: none"> • Available for greater depths of cut than many conventional chipbreakers • Achieves high-precision machining in a single pass • Chipbreaker shape optimized for various depths of cut • Stable chip control in a wide range of machining applications
			<p>20° 20°</p>	



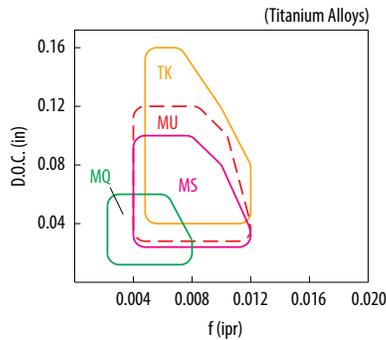
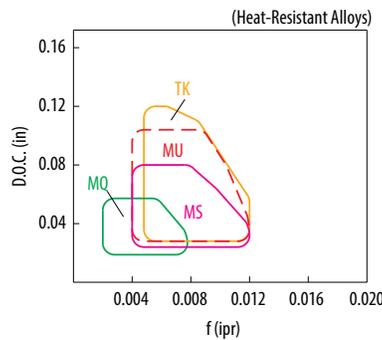
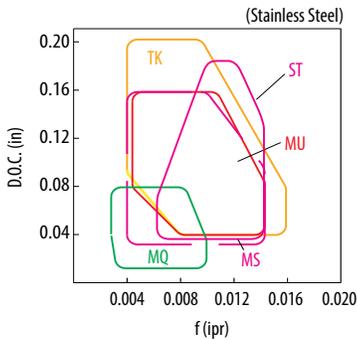
INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Stainless Steel / Heat-Resistant Alloy / Titanium Alloy

Cutting Range	Name	Design	Advantages
Finishing	MQ		<ul style="list-style-type: none"> Large rake angle Low cutting force and good chip control
Medium - Roughing	MS		<ul style="list-style-type: none"> Superior cutting edge sharpness and strength achieved by a positive land Extra strength of cutting edge inhibits damage from wall shouldering
Medium - Roughing	MU		<ul style="list-style-type: none"> Large rake angle reduces cutting force Less burring achieved by diminishing damage from notching

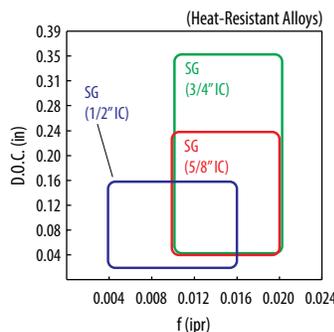
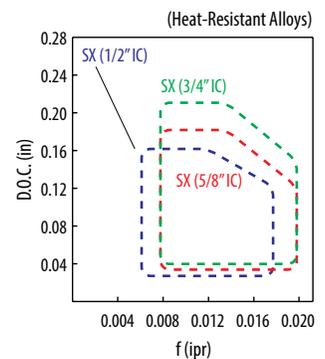
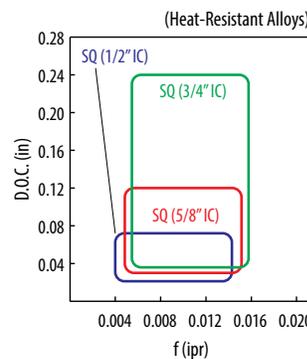
Cutting Range	Name	Design	Advantages
Medium - Roughing	TK		<ul style="list-style-type: none"> Smooth chipbreaker geometry improves chip flow with less adhesion Large curled chips
Medium - Roughing	ST		<ul style="list-style-type: none"> Less cutting force due to large rake angle Less notching with special design

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Heat-Resistant Alloys

Cutting Range	Name	Design	Advantages
Finishing - Medium	SQ		<ul style="list-style-type: none"> Effective for burr suppression and reducing notching by slant cutting edge (inclined in (-) direction)
Roughing	SG		<ul style="list-style-type: none"> Well-balanced edge strength Cutting force reduction for stable machining at high-load cutting Shallow and gently curved breaker controls chips smoothly
Roughing	SX		<ul style="list-style-type: none"> Slant cutting edge reduces cutting force Less burring achieved by unique cutting edge design

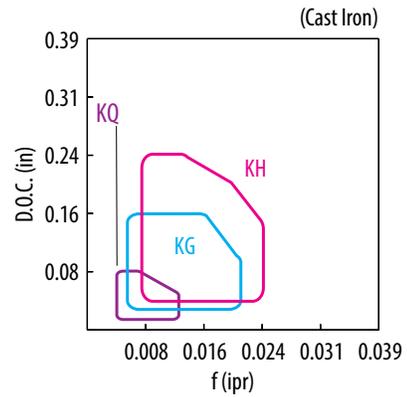


Chipbreaker Selection (Negative Inserts)

Cast Iron (K Series)

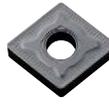
Cutting Range	Name	Design		Advantages
Sharp Cutting Oriented	KQ			<ul style="list-style-type: none"> • Sharp cutting chipbreaker • Edge geometry is suitable for workpieces that require sharpness such as thin-walled
Roughing	KG			<ul style="list-style-type: none"> • Excellent balance of sharpness and strength • Excellent stability in continuous machining
Roughing	KH			<ul style="list-style-type: none"> • Good for heavily interrupted machining • Strong edge chipbreaker • Improved locating / seating in the toolholder pocket with high reliability

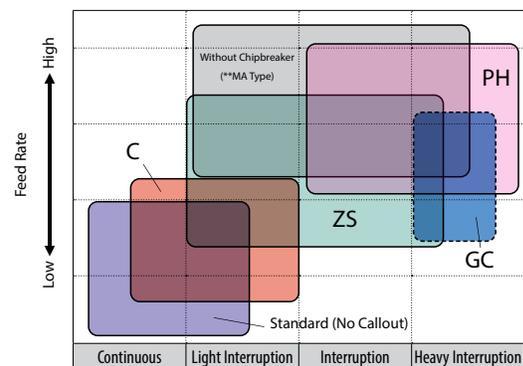
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Cast Iron

Cutting Range	Name	Design		Advantages
Sharp Cutting Oriented	Standard (No Callout)			<ul style="list-style-type: none"> • Standard type for continuous to light interrupted cuts (Low cutting force)
	C			<ul style="list-style-type: none"> • High feed rate chipbreaker for continuous to light interrupted cuts
	ZS			<ul style="list-style-type: none"> • Standard type for light interrupted to interrupted cuts (Stability oriented)
	Without Chipbreaker			<ul style="list-style-type: none"> • High feed rate chipbreaker for light interrupted to interrupted cuts

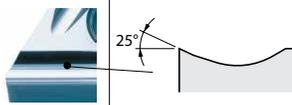
Cutting Range	Name	Design		Advantages
Stability Oriented	GC			<ul style="list-style-type: none"> • For heavy interrupted machining of cast iron (Tough edge chipbreaker)
	PH			<ul style="list-style-type: none"> • For roughing • Suitable for heavy interrupted cuts and for workpieces with scale due to strong cutting edge

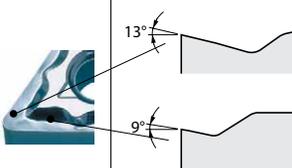


INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
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THREADING	J
DRILLING	K
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SPARE PARTS	P
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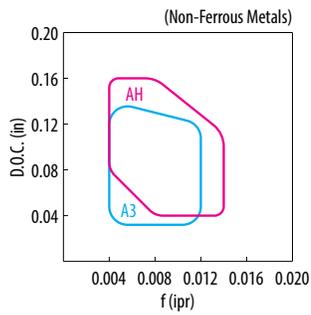
Non-Ferrous Metals

B
TURNING
INSERTS

Cutting Range	Name	Design		Advantages
Finishing - Medium	A3			<ul style="list-style-type: none"> • Large rake angle and smooth surface • Good chip control and less adhesion

Cutting Range	Name	Design		Advantages
Medium - Roughing	AH			<ul style="list-style-type: none"> • Polished chipbreaker • Smooth chip control and less adhesion <p>G Class: Sharp Edge M Class: Honed Edge Prep</p>

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

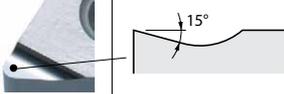
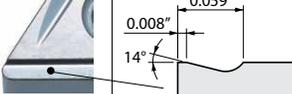
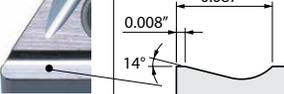


A3 Chipbreaker	
	D.O.C. = 0.079" f = 0.008 ipr
	D.O.C. = 0.079" f = 0.012 ipr

AH Chipbreaker	
	D.O.C. = 0.079" f = 0.008 ipr
	D.O.C. = 0.079" f = 0.012 ipr

Chipbreaker Selection (Negative Inserts)

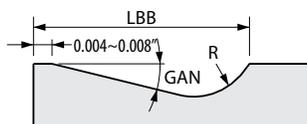
Steel (Ground Chipbreaker)

Cutting Range	Name	Design		Advantages
Finishing	S			<ul style="list-style-type: none"> • Sharp edge and less cutting force • Good chip control and smooth chip evacuation
		B		
Medium - Roughing	C			
		Medium - Roughing / Low Cutting Force	25R	

Effectiveness of a Ground Chipbreaker

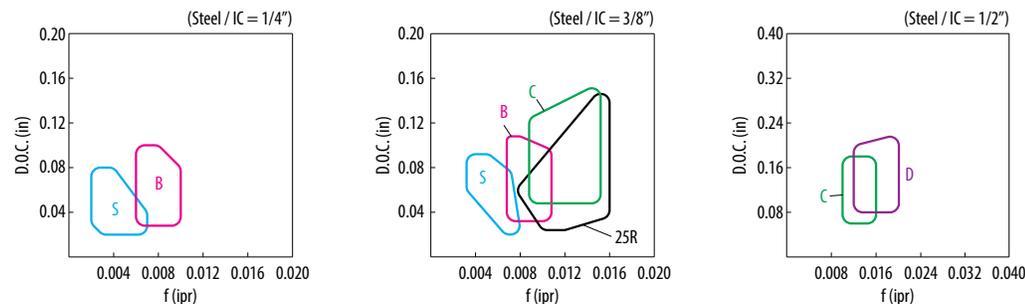
1. Lower cutting force and sharper cutting edge
2. Improved adhesion resistance
3. Improved dimensional accuracy and surface finish
4. Controlled chip evacuation flow

Specification of B, C and Parallel Ground Chipbreaker



Insert Type	IC Size (in)	Chipbreaker Name	LBB	GAN	R
CNGG	3/8, 1/2	No Callout (Similar to C)	0.087"	14°	0.039"
WNGG	3/8	No Callout (Similar to C)	0.087"	14°	0.039"
TNGG	1/4, 3/8	B	0.059"	14°	0.020"
	3/8, 1/2	C	0.087"	14°	0.039"
DNGG	3/8, 1/2	No Callout (Similar to C)	0.098"	14°	0.079"
VNGG	3/8	No Callout (Similar to B)	0.059"	14°	0.020"
SNGG	3/8, 1/2	B	0.059"	14°	0.020"
	1/2	C	0.087"	14°	0.039"

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



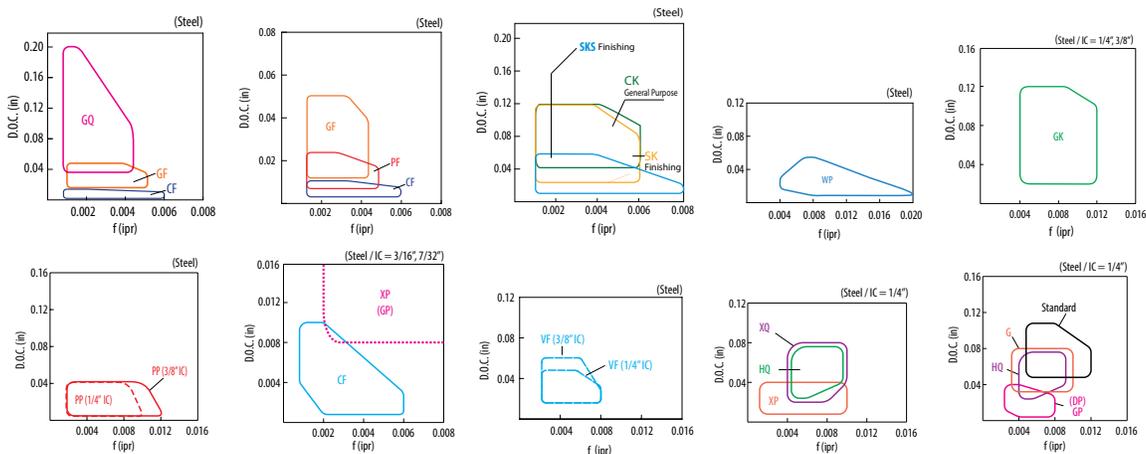
Chipbreaker Selection (Positive Inserts)

Steel (Molded Chipbreaker)

Name	Design			Advantages
Minute D.O.C.	CF			• Available for minute D.O.C. (0.0008" to 0.008") finishing
Finishing	PF			• Chipbreaker for finishing boring available from D.O.C. 0.006"~0.024"
Finishing	GF			• Breaks chips into small pieces at small D.O.C.
Finishing - Medium	GQ			• Wide range of conditions by using an optimum chipbreaker width according to the cutting depth
Finishing	SKS			• Finishing chipbreaker for 0.008-0.059" D.O.C. • Rake face, bottom face and chipbreaker face provide stable chip control
Finishing	SK			• Sharp cutting performance due to large rake angle • Large dot to the corner edge for improved chip control in a wide feed rate range
Finishing	CK			• Good cutting performance • Applicable without hand for two-direction machining on automatic lathe
Finishing	WP			• Wiper insert • Good surface finish and good chip control at high feed rates • Reduces surface finish galling

Name	Design			Advantages
Finishing - Medium	GK			• Good chip evacuation in a wide machining range with breaker dot and wide chip pocket
Finishing	PP			• 1st Recommendation • Stable chip control in a wide feed rate range • Stable tool life due to special edge design with sharpness and improved strength
Finishing	DP			• Consistent chip breaking performance for finishing
Finishing	GP			• Good chip control
Finishing	VF			• Good chip control for varied D.O.C. such as copying and undercutting
Finishing - Medium	HQ			• General purpose chipbreaker for medium machining
Medium	G			• Chipbreaker for short chips
Medium	Standard (No Callout)			• Strong edge chipbreaker

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



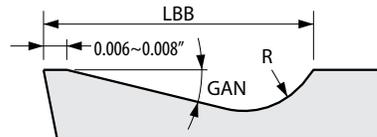
Chipbreaker Selection (Positive Inserts)

Steel (Ground Chipbreaker)

Cutting Range	Name	Design		Advantages
Finishing	No Callout			• Good chip control at finishing to light machining with low cutting force
Finishing	F			• Good chip control at finishing to light machining with low cutting force
Finishing	P			• Smoothly breaks chips and directs them towards the outside of the workpiece when boring • Sharp edge
Medium	Y			• Sharp cutting performance and good surface finish
Low Feed	J			• Slant chipbreaker width and chip control at various D.O.C. • Applicable to automatic lathes
Low Feed	U			• Good chip control at low feed rates and varied D.O.C. with low cutting force

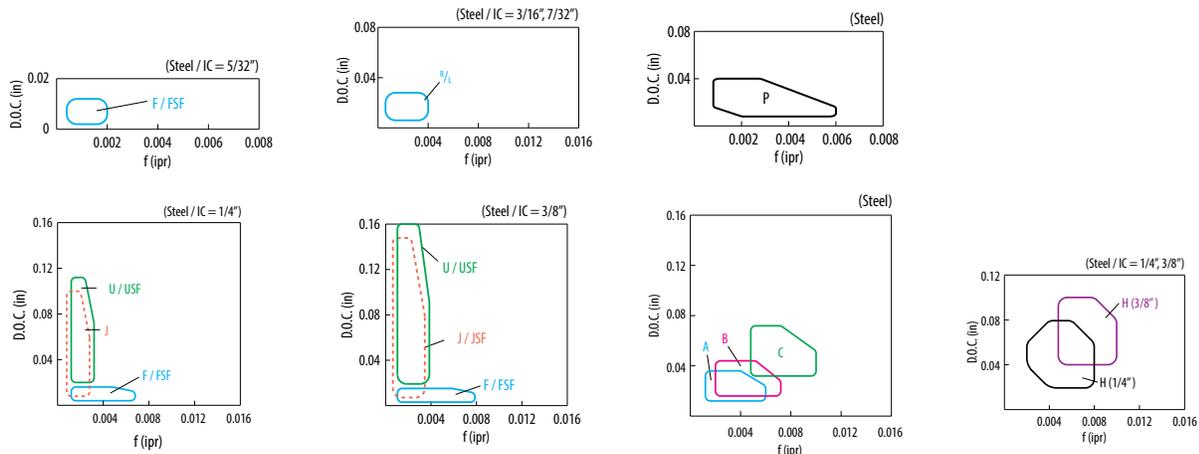
Cutting Range	Name	Design		Advantages
Finishing	A			• Large rake angle and low cutting force • Narrow chipbreaker width and consistent chip control
Finishing - Medium	B			• General purpose chipbreaker for medium machining • Good balance between chip control and sharp cutting
Medium	C			• Applicable to high load machining • Good chip flow and less resistance
Medium	H			• Sharp cutting performance and small curled chips

Specification of A, B, C and Parallel Ground Chipbreaker



Insert Type	IC Size (in)	Chipbreaker name	LBB	GAN	R
TPGR	1/4	A	0.039"	17°	0.020"
	1/4, 3/8	B	0.059"	14°	0.020"
	3/8	C	0.087"	14°	0.039"
SPGR	3/8	No Callout (Similar to B)	0.059"	14°	0.020"
	1/2	No Callout (Similar to C)	0.087"	14°	0.039"

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



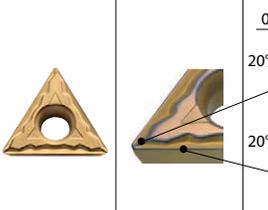
- INSERT GRADES **A**
- TURNING INSERTS **B**
- CBN/PCD INSERTS **C**
- TURNING HOLDERS **D**
- SMALL TOOLS **E**
- BORING **F**
- GROOVING **G**
- CUT-OFF **H**
- THREADING **J**
- DRILLING **K**
- MILLING **M**
- QUICK CHANGE TOOLING **N**
- SPARE PARTS **P**
- TECHNICAL **R**
- INDEX **T**

Chipbreaker Selection (Positive Inserts)

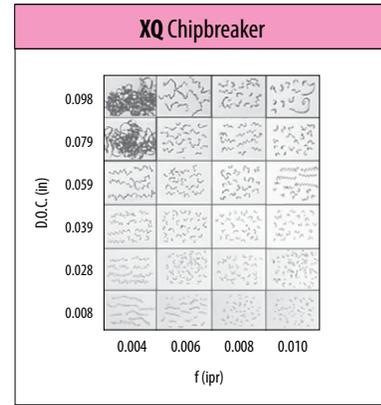
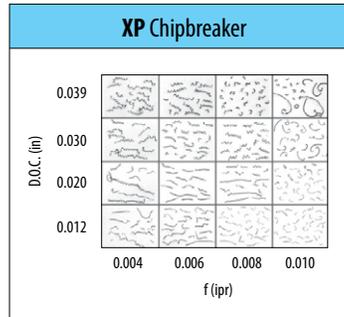
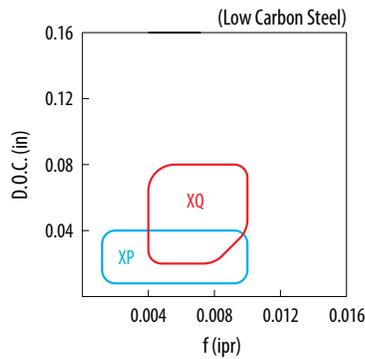
B
TURNING
INSERTS

Low Carbon Steel (Pipe, Rolled Plate, Rolled Steel)

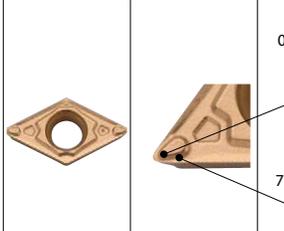
Cutting Range	Name	Design	Advantages
Finishing	XP		<ul style="list-style-type: none"> Consistent chip breaking performance even for low carbon steel and sticky material

Cutting Range	Name	Design	Advantages
Finishing - Medium	XQ		<ul style="list-style-type: none"> Wide chip control range and sharp cutting performance Suitable for low carbon steel and sticky material

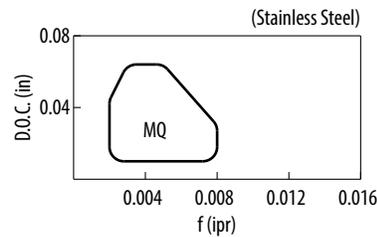
Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)



Stainless Steel

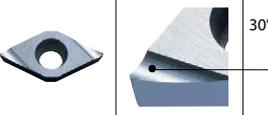
Cutting Range	Name	Design	Advantages
Finishing	MQ		<ul style="list-style-type: none"> Good chip evacuation when boring / ID turning Small curled chips Prevents chip entanglement with toolholder and stabilizes surface roughness

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

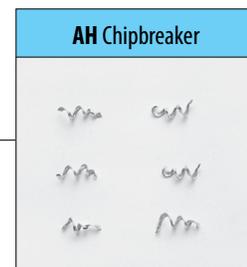
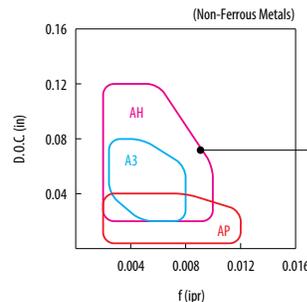


Non-Ferrous Metals

Cutting Range	Name	Design	Advantages
Finishing	AP		<ul style="list-style-type: none"> Curved edge and shape of chipbreaker create good chip control Sharp cutting edge provides excellent surface finish Polished chipbreaker
Finishing - Medium	AH		<ul style="list-style-type: none"> Positive chip groove and good chip control with low cutting force Polished surface reduces adhesion

Cutting Range	Name	Design	Advantages
Finishing - Medium	A3		<ul style="list-style-type: none"> Large rake angle, smooth chip flow and less adhesion Superior cutting performance achieved by sharp edge

Applicable Chipbreaker Range (D.O.C. Refers to Radial Depth of Cut)

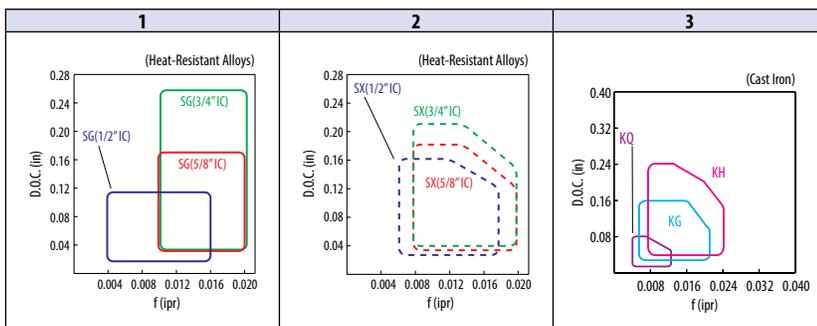


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Insert		Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Carbide							Applicable Toolholder Page				
						IC	S	D1	RE	CVD			PVD								
										CA310	CA315	CA320	CA410K	CA415K	PR005S	PR115S	PR120S	PR155S	SW05		
Heat-Resistant Alloys Roughing		CNMG 432SG	CNMG 120408SG	1	4	1/2	3/16	0.203	1/32						●	●	●	●		D8~D11 F138 F147 F148	
		433SG	CNMG 120412SG																		
Heat-Resistant Alloys Roughing / Single-Sided		CNMM 43XR-SX	CNMM 1204XR-SX	1	4	5/8	1/4	0.250	3/64						●	●	●	●		D10~D11	
		544SG	CNMM 160612SG																		
Heat-Resistant Alloys Roughing / Single-Sided		CNMM 54XR-SX	CNMM 1606XR-SX	1	4	3/4	1/4	0.313	3/64						●	●	●	●		D10~D11	
		644SG	CNMM 190612SG																		
Cast Iron Sharp Cutting Oriented		CNMG 431KQ	CNMG 120404KQ	3	4	1/2	3/16	0.203	1/64	●	●	●	●							D8~D11 F138 F147 F148	
		432KQ	CNMG 120408KQ						1/32	●	●	●	●								
Cast Iron Medium - Roughing		433KQ	CNMG 120412KQ						3/64	●	●	●	●								
		CNMG 431KG	CNMG 120404KG	3	4	1/2	3/16	0.203	1/64	●	●	●	●								
432KG	CNMG 120408KG	1/32	●						●	●	●										
Cast Iron Roughing		433KG	CNMG 120412KG						3/64	●	●	●	●								
		CNMG 432KH	CNMG 120408KH	3	4	1/2	3/16	0.203	1/32	●	●	●	●								
433KH	CNMG 120412KH	3/64	●						●	●	●										
		434KH	CNMG 120416KH						1/16	●	●	●	●								

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
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80° Diamond

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B
TURNING
INSERTS

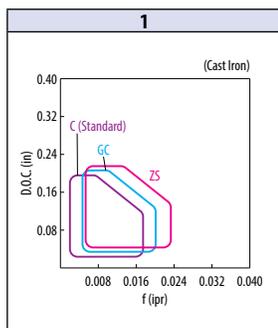
NEGATIVE

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CERAMIC

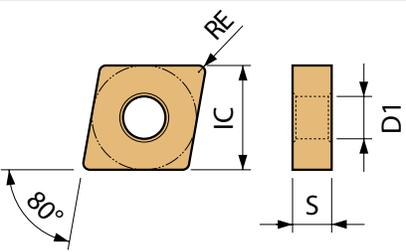
		Material Compatibility											Applicable Toolholder Page											
		Free-cutting steel	Carbon steel / Alloy steel	Stainless Steel	Gray cast iron	Nodular cast iron	Non-ferrous metals	Heat-resistant alloy	Titanium alloy	Hard materials	P	M		K	N	S	H							
		Dimensions (in)				Carbide								Cermet										
		Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	IC	S	D1	RE	CA115P	CA310		CA315	CA320	CA410K	CA415K	CA4515	KW10	CCX	PV7005			
Cast Iron Roughing	CNMG 431C	CNMG 120404C	1	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	●	●	●	●	●	D8~D11 F138 F147 F148				
	432C	CNMG 120408C						1/32	●	●	●	●	●	●	●	●	●	●	●		●	●	●	
	433C	CNMG 120412C						3/64	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
	434C	CNMG 120416C						1/16	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●
Cast Iron Roughing	CNMG 543C	CNMG 160612C	1	4	5/8	1/4	0.250	3/64	●	●	●	●	●	●	●	●	●	●	D10~D11					
	CNMG 432ZS	CNMG 120408ZS						1/32	●	●	●	●	●	●	●	●	●	●		●	●	●		
Cast Iron Roughing	CNMG 433ZS	CNMG 120412ZS	1	4	1/2	3/16	0.203	3/64	●	●	●	●	●	●	●	●	●	●	D8~D11 F138 F147 F148					
	CNMG 432GC	CNMG 120408GC						1/32	●	●	●	●	●	●	●	●	●	●		●	●	●		
Cast Iron Roughing	433GC	CNMG 120412GC	1	4	1/2	3/16	0.203	3/64	●	●	●	●	●	●	●	●	●	●	D8~D11 F138 F147 F148					
	CNMG 431	CNMG 120404						1/64	●	●	●	●	●	●	●	●	●	●		●	●	●		
Cast Iron Without Chipbreaker	CNMA 431	CNMA 120404	-	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	●	●	●	●	D8~D11 F138 F147 F148					
	432	CNMA 120408						1/32	●	●	●	●	●	●	●	●	●	●		●	●	●		
	433	CNMA 120412						3/64	●	●	●	●	●	●	●	●	●	●		●	●	●	●	
	434	CNMA 120416						1/16	●	●	●	●	●	●	●	●	●	●		●	●	●	●	

Chipbreaker Range



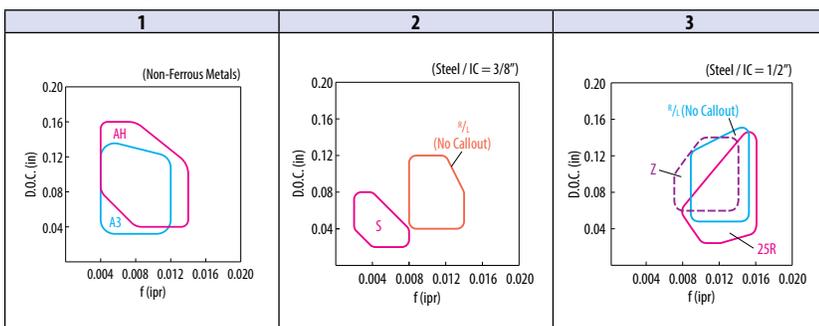
80° Diamond

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Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Carbide		Cermet		Applicable Toolholder Page	
				No. of Edges	IC	S	D1	RE	PDC010 PDC025	KW10	PV710 PV720 PV730		TN60 TN610 TN620
Free-cutting steel												P	
Carbon steel / Alloy steel												P	
Stainless Steel												M	
Gray cast iron												K	
Nodular cast iron												K	
Non-ferrous metals												N	
Heat-resistant alloy												S	
Titanium alloy												S	
Hard materials												H	
Non-Ferrous Metals	CNGG 431R-A3 431L-A3 432R-A3 432L-A3	CNGG 120404R-A3 120404L-A3 120408R-A3 120408L-A3	1	4	1/2	3/16	0.203	1/64 1/64 1/32 1/32	●●●●				
Non-Ferrous Metals	CNGG 431AH 432AH	CNGG 120404AH 120408AH	1	4	1/2	3/16	0.203	1/64 1/32	●●●●				D8~D11 F138 F147 F148
Non-Ferrous Metals	CNMG 431AH 432AH	CNMG 120404AH 120408AH	1	4	1/2	3/16	0.203	1/64 1/32	●●●●				
Finishing	CNGG 3305R-S 3305L-S 331R-S 331L-S 332R-S 332L-S	CNGG 090402R-S 090402L-S 090404R-S 090404L-S 090408R-S 090408L-S	2	4	3/8	3/16	0.150	0.008 0.008 1/64 1/64 1/32 1/32		●●●●	●●●●		D11 F148
Medium	CNGG 331L 332L 4302FR 4302FL 431R 431L 432R 432L	CNGG 090404L 090408L 120401FR 120401FL 120404R 120404L 120408R 120408L	2 3 3	4	3/8 1/2	3/16	0.150 0.203	1/64 1/32 0.004 0.004 1/64 1/64 1/32 1/32	●●		●●		D8~D11 F138 F147 F148
Medium-Roughing	CNGG 431R-25R 431L-25R 432R-25R 432L-25R	CNGG 120404R-25R 120404L-25R 120408R-25R 120408L-25R	3	4	1/2	3/16	0.203	1/64 1/64 1/32 1/32	●●●●	●●●●	●●●●		D8~D11 F138 F147 F148
Medium-Roughing	CNGG 431Z	CNGG 120404Z	3	4	1/2	3/16	0.203	1/64			●		

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

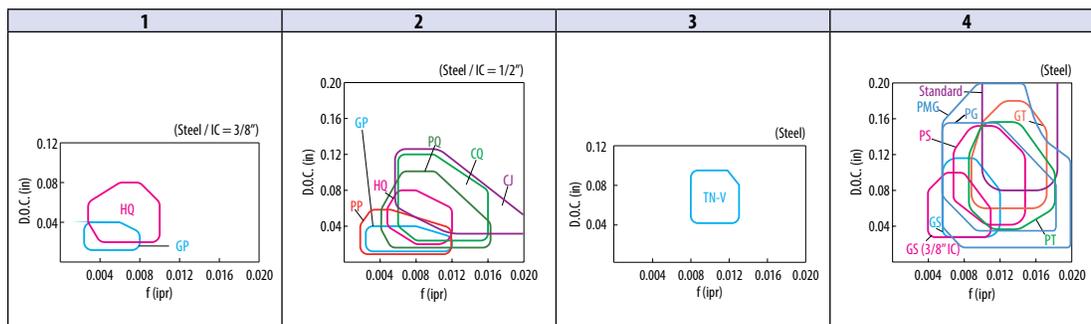
INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

55° Diamond

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Insert		Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Material Compatibility										Applicable Toolholder Page												
					No. of Edges	IC	S	D1	RE	Material																					
										Carbide					Cermet																
										CVD					PVD																
								CA025P	CA115P	CA125P	CA510	CA515	CA525	CA530	CA6515	CA6525	PR1535	CCX	PI710	PI720	PI730	Ti60	Ti610	Ti620							
Finishing - Medium		DNMG 3305HQ	DNMG 110402HQ	1	4	3/8	3/16	0.150	0.008	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	D18 F150			
		331HQ	110404HQ							1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●
		DNMG 431HQ	DNMG 150404HQ	2	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156	
432HQ	150408HQ	1/32	●							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
Finishing - Medium		DNMG 433HQ	150412HQ	2	4	1/2	3/16	0.203	3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	D14, D16 D18		
		441HQ	DNMG 150604HQ							1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
		442HQ	150608HQ	2	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
443HQ	150612HQ	3/64	●							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Finishing - Medium		DNMG 431CQ	DNMG 150404CQ	2	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156		
		432CQ	150408CQ							1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●
		433CQ	150412CQ	2	4	1/2	1/4	0.203	3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
441CQ	DNMG 150604CQ	1/64	●							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Finishing - Medium		442CQ	150608CQ	2	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		443CQ	150612CQ							3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		DNMG 432CJ	DNMG 150408CJ	2	4	1/2	3/16	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
433CJ	150412CJ	3/64	●							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Medium		DNMG 442CJ	DNMG 150608CJ	2	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		443CJ	150612CJ							3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Medium - Roughing		DNMG 431TN-V	DNMG 150404TN-V	3	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		432TN-V	150408TN-V							1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Medium - Roughing		DNMG 432PMG	DNMG 150408PMG	4	4	1/2	3/16	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
		433PMG	150412PMG							3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		434PMG	150416PMG	4	4	1/2	1/4	0.203	1/16	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		441PMG	DNMG 150604PMG							1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Medium - Roughing		442PMG	150608PMG	4	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		443PMG	150612PMG							3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		444PMG	150616PMG	4	4	1/2	1/4	0.203	1/16	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		DNMG 331GS	DNMG 110404GS							1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Medium - Roughing		332GS	110408GS	4	4	3/8	3/16	0.150	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		DNMG 431GS	DNMG 150404GS							1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
		432GS	150408GS	4	4	1/2	3/16	0.203	1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		433GS	150412GS							3/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Medium - Roughing		DNMG 441GS	DNMG 150604GS	4	4	1/2	1/4	0.203	1/64	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
		442GS	150608GS							1/32	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

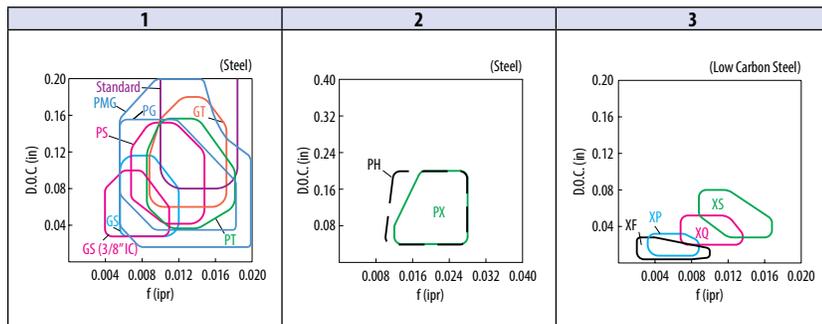
INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
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INDEX	T

55° Diamond

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Insert		Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Material										Applicable Toolholder Page												
					No. of Edges	IC	S	D1	RE	Material																					
										Free-cutting steel	Carbon steel / Alloy steel	Stainless Steel	Gray cast iron	Nodular cast iron	Non-ferrous metals	Heat-resistant alloy	Titanium alloy	Hard materials		P	M	K	N	S	H						
Roughing		DNMG 431	DNMG 150404	1	4	1/2	3/16	0.203	1/64	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14~D19 F140, F152 F154~F156
		432	150408							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
433	150412	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620									
Roughing		DNMG 441	DNMG 150604	1	4	1/2	1/4	0.203	1/64	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14, D16 D18
		442	150608							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
443	150612	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620									
Roughing		DNMG 432PH	DNMG 150408PH	2	4	1/2	3/16	0.203	1/32	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14~D19 F140, F152 F154~F156
		433PH	150412PH							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
434PH	150416PH	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620									
Roughing		DNMM 442PX	DNMM 150608PX	2	4	1/2	1/4	0.203	1/32	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14, D16 D18
		443PX	150612PX							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
444PX	150616PX	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620									
Low Carbon Steel		DNMG 431XF	DNMG 150404XF	3	4	1/2	3/16	0.203	1/64	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14~D19 F140, F152 F154~F156
		432XF	150408XF							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
Low Carbon Steel		DNMG 431XP	DNMG 150404XP	3	4	1/2	3/16	0.203	1/64	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14, D16 D18
		432XP	150408XP							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
441XP	150604XP	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620									
442XP	150608XP	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620									
Low Carbon Steel		DNMG 431XQ	DNMG 150404XQ	3	4	1/2	3/16	0.203	1/64	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14~D19 F140, F152 F154~F156
		432XQ	150408XQ							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	
Low Carbon Steel		DNMG 432XS	DNMG 150408XS	3	4	1/2	3/16	0.203	1/32	CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	D14~D19 F140, F152 F154~F156
		432XS	150408XS							CA025P	CA115P	CA125P	CA310	CA315	CA320	CA410K	CA415K	CA4515	CA510	CA525	CA530	COX	PV7005	PV710	PV720	PV730	PV90	TN60	TN610	TN620	

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
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B TURNING INSERTS

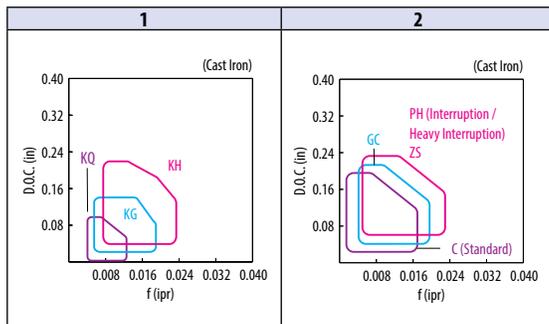
NEGATIVE



CERAMIC

Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range		Dimensions (in)				Carbide						Applicable Toolholder Page																																																																																																																																											
			No. of Edges	IC	S	D1	RE	CVD																																																																																																																																																		
								CA310	CA315	CA320	CA410K	CA415K	CA4515																																																																																																																																													
<table border="1"> <tr><td>Free-cutting steel</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>P</td></tr> <tr><td>Carbon steel / Alloy steel</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Stainless Steel</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>M</td></tr> <tr><td>Gray cast iron</td><td></td><td></td><td>○</td><td>⊕</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="2">K</td></tr> <tr><td>Nodular cast iron</td><td></td><td></td><td>⊖</td><td>⊗</td><td>○</td><td>⊕</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Non-ferrous metals</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>N</td></tr> <tr><td>Heat-resistant alloy</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td rowspan="2">S</td></tr> <tr><td>Titanium alloy</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Hard materials</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>H</td></tr> </table>															Free-cutting steel															P	Carbon steel / Alloy steel																Stainless Steel															M	Gray cast iron			○	⊕											K	Nodular cast iron			⊖	⊗	○	⊕								Non-ferrous metals															N	Heat-resistant alloy															S	Titanium alloy														Hard materials															H
Free-cutting steel															P																																																																																																																																											
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Gray cast iron			○	⊕											K																																																																																																																																											
Nodular cast iron			⊖	⊗	○	⊕																																																																																																																																																				
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Heat-resistant alloy															S																																																																																																																																											
Titanium alloy																																																																																																																																																										
Hard materials															H																																																																																																																																											
Cast Iron Sharp Cutting Oriented	DNMG 431KQ	DNMG 150404KQ	1	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156																																																																																																																																											
	432KQ	150408KQ						1/32	●	●	●	●	●	●																																																																																																																																												
Cast Iron Medium-Roughing	DNMG 441KQ	DNMG 150604KQ	1	4	1/2	1/4	0.203	1/64	●	●	●	●	●	●	D14, D16 D18																																																																																																																																											
	442KQ	150608KQ						1/32	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 432KH	DNMG 150408KH	1	4	1/2	3/16	0.203	1/32	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156																																																																																																																																											
	433KH	150412KH						3/64	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 442KH	DNMG 150608KH	1	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	D14, D16 D18																																																																																																																																											
	443KH	150612KH						3/64	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 431C	DNMG 150404C	2	4	1/2	3/16	0.203	1/64	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156																																																																																																																																											
	432C	150408C						1/32	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 441C	DNMG 150604C	2	4	1/2	1/4	0.203	1/64	●	●	●	●	●	●	D14, D16 D18																																																																																																																																											
	442C	150608C						1/32	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 443C	150612C	2	4	1/2	1/4	0.203	3/64	●	●	●	●	●	●	D14, D16 D18																																																																																																																																											
	433ZS	DNMG 150408ZS						1/32	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 432ZS	DNMG 150408ZS	2	4	1/2	3/16	0.203	1/32	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156																																																																																																																																											
	433ZS	150412ZS						3/64	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 442ZS	DNMG 150608ZS	2	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	D14, D16 D18																																																																																																																																											
	443ZS	150612ZS						3/64	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 432GC	DNMG 150408GC	2	4	1/2	3/16	0.203	1/32	●	●	●	●	●	●	D14~D19 F140, F152 F154~F156																																																																																																																																											
	433GC	150412GC						3/64	●	●	●	●	●	●																																																																																																																																												
Cast Iron Roughing	DNMG 442GC	DNMG 150608GC	2	4	1/2	1/4	0.203	1/32	●	●	●	●	●	●	D14, D16 D18																																																																																																																																											
	443GC	150612GC						3/64	●	●	●	●	●	●																																																																																																																																												

Chipbreaker Range



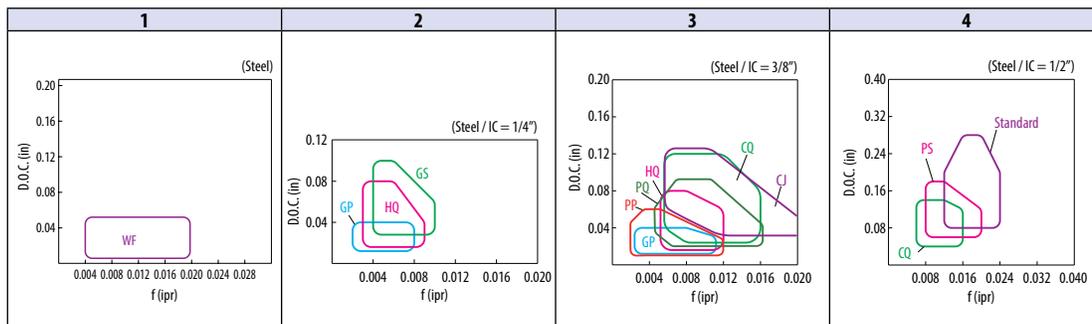
60° Triangle

How to read this page See page B15

		Free-cutting steel											Carbon steel / Alloy steel											Stainless Steel											Gray cast iron											Nodular cast iron											Non-ferrous metals											Heat-resistant alloy											Titanium alloy											Hard materials										
		P											M											K											N											S											H																																											
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Carbide											Cermet											Applicable Toolholder Page																																																																					
					IC	S	D1	RE	CVD											PVD																																																																																
									CA025P	CA115P	CA125P	CA510	CA515	CA525	CA530	CA6515	CA6525	PR1535	CCX	PV710	PV720	PV730	TN60	TN610	TN620																																																																											

See "Precautions when using Wiper inserts" on page R40 and R41 for WF/WE chipbreakers.

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

60° Triangle

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B
TURNING
INSERTS

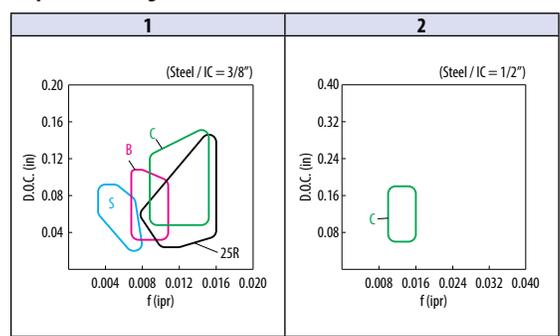
NEGATIVE

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CERAMIC

Insert		Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Carbide		Cermet		Applicable Toolholder Page		
						IC	S	D1	RE	PVD	-	PVD	-			
						PR1335 PR930	KV10	PV7005 PV710 PV720 PV730	PR930	TNG0 TNG10 TNG20						
		TNGG 3305R-C	TNGG 160402R-C	1	6	3/8	3/16	0.150	0.008					D25~D32 F142 F159 F160		
		3305L-C	160402L-C						0.008							
		331R-C	160404R-C						1/64	●	●	●	●		●	●
		331L-C	160404L-C						1/64	●	●	●	●		●	
		332R-C	160408R-C						1/32	●	●	●	●		●	
		332L-C	160408L-C						1/32	●	●	●	●		●	
		333R-C	160412R-C						3/64	●	●	●	●		●	
		333L-C	160412L-C	3/64	●	●	●	●	●							
		TNGG 431R-C	TNGG 220404R-C	2	6	1/2	3/16	0.203	1/64						D27~D29 F159	
		431L-C	220404L-C						1/64							
432R-C	220408R-C	1/32														
432L-C	220408L-C	1/32														
TNMG 331R-C	TNMG 160404R-C	1	6	3/8	3/16	0.150	1/64						D25~D32 F142 F159 F160			
331L-C	160404L-C						1/64									
332R-C	160408R-C						1/32									
332L-C	160408L-C						1/32									
333R-C	160412R-C						3/64									
		TNGG 2305R	TNGG 110402R	1	6	1/4	3/16	0.089	0.008					D28, D29 F160		
		231R	110404R						1/64							
		231L	110404L						1/64							
		232R	110408R						1/32							
		TNGG 331R-25R	TNGG 160404R-25R	1	6	3/8	3/16	0.150	1/64	●	●	●	●	D25~D32 F142 F159 F160		
		331L-25R	160404L-25R						1/64	●	●	●	●			
		332R-25R	160408R-25R						1/32	●	●	●	●			
		332L-25R	160408L-25R						1/32	●	●	●	●			
		332L-25R	160408L-25R						1/32	●	●	●	●			

Chipbreaker Range

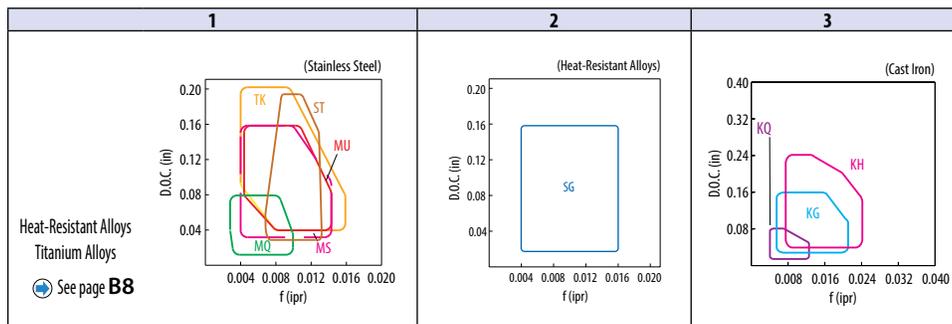


80° Trigon

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Insert		Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Carbide										Applicable Toolholder Page		
					No. of Edges	IC	S	D1	RE	CVD					PVD						
										CA310	CA315	CA320	CA410K	CA415K	CA6515	CA6525	PR0055	PR1155		PR1205	PR1535
Free-cutting steel																		P			
Carbon steel / Alloy steel																		P			
Stainless Steel																		M			
Gray cast iron																		K			
Nodular cast iron																		K			
Non-ferrous metals																		N			
Heat-resistant alloy																		S			
Titanium alloy																		S			
Hard materials																		H			
Stainless Steel / Heat-Resistant Alloys	Finishing - Medium	WNMG 431MQ	WNMG 080404MQ	1	6	1/2	3/16	0.203	1/64											D48~D51 F162 F164 F165	
		432MQ	080408MQ																		
		Medium - Roughing	WNMG 431MS	WNMG 080404MS	1	6	1/2	3/16	0.203	1/64											
	432MS		080408MS																		
	433MS		080412MS																		
	Medium - Roughing	WNMG 431MU	WNMG 080404MU	1	6	1/2	3/16	0.203	1/64												
		432MU	080408MU																		
		433MU	080412MU																		
	Heat-Resistant Alloys	Roughing	WNMG 432SG	WNMG 080408SG	2	6	1/2	3/16	0.203	1/32											
			433SG	080412SG																	
	Cast Iron	Sharp Cutting Oriented	WNMG 431KQ	WNMG 080404KQ	3	6	1/2	3/16	0.203	1/64											
			432KQ	080408KQ																	
433KQ			080412KQ																		
Cast Iron	Medium - Roughing	WNMG 431KG	WNMG 080404KG	3	6	1/2	3/16	0.203	1/64												
		432KG	080408KG																		
		433KG	080412KG																		
Cast Iron	Roughing	WNMG 432KH	WNMG 080408KH	3	6	1/2	3/16	0.203	1/32												
		433KH	080412KH																		
		434KH	080416KH																		

Chipbreaker Range



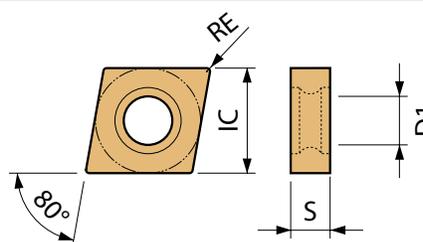
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Small Double-Sided / 80° Diamond

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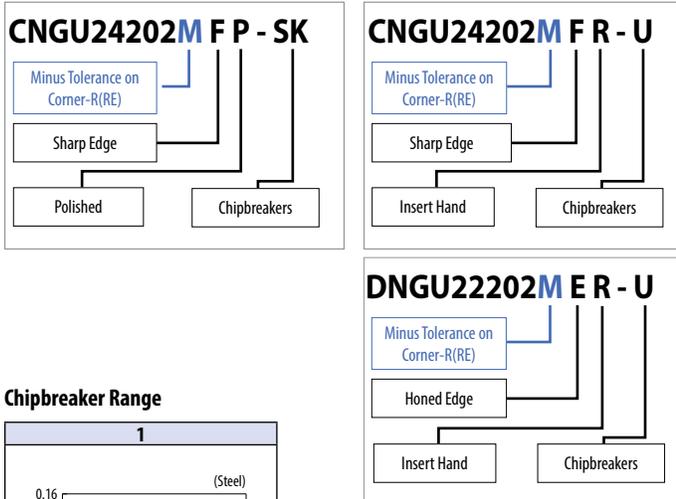


Free-cutting steel	Carbon steel / Alloy steel	Stainless Steel	Gray cast iron	Nodular cast iron	Non-ferrous metals	Heat-resistant alloy	Titanium alloy	Hard materials	Carbide			Applicable Toolholder Page
									P	M	K	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	
●	●	●	●	●	●	●	●	●	●	●	●	

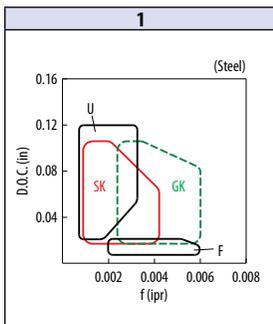
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Carbide			Applicable Toolholder Page	
				No. of Edges	IC	S	D1	RE	PVD			
Finishing - Medium Polished / Sharp Edge	CNGU 24202MFP-SK	CNGU 070301MFP-SK	1	4	0.295	1/8	0.124	< 0.004	●	●	●	E64
	24205MFP-SK	070302MFP-SK							●	●	●	
Medium - Roughing Honed Edge	CNMU 24205E-GK	CNMU 070302E-GK	1	4	0.295	1/8	0.124	0.008	●	●	●	E64
	2421E-GK	070304E-GK						1/64	●	●	●	
Finishing Sharp Edge	CNGU 242013MFR-F	CNGU 0703005MFR-F	1	4	0.295	1/8	0.124	< 0.002	△	●	●	E64
	24202MFR-F	070301MFR-F						< 0.004	●	●	●	
	24205MFR-F	070302MFR-F						< 0.008	●	●	●	
	2421MFR-F	070304MFR-F						< 1/64	●	●	●	
Low Feed Sharp Edge	CNGU 242013MFR-U	CNGU 0703005MFR-U	1	4	0.295	1/8	0.124	< 0.002	●	●	●	E64
	24202MFR-U	070301MFR-U						< 0.004	●	●	●	
	24205MFR-U	070302MFR-U						< 0.008	●	●	●	
	2421MFR-U	070304MFR-U						< 1/64	●	●	●	

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Small Double-Sided Tools Identification System



Chipbreaker Range



When a minus tolerance is specified for the corner-R(RE)

If a minus tolerance is specified for the corner-R(RE) as shown in the Fig.1, using an insert with corner-R(RE) = 0.008" may result in larger radius than specified. Use an insert with corner-R(RE) that has a minus tolerance.

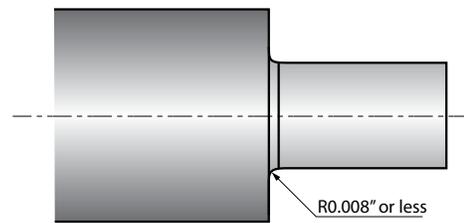


Fig.1 Example of a specified corner-R in drawing

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

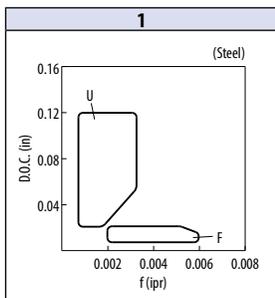
Small Double-Sided / 60° Triangle

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Insert		Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Carbide			Applicable Toolholder Page
						IC	S	D1	RE	PVD			
										PR1225	PR1535	PR1705	PR1725
Finishing 	Sharp Edge	TNGU 182013MFR-F	TNGU 0903005MFR-F	1	6	7/32	1/8	0.118	< 0.002	●	●	●	●
		18202MFR-F	090301MFR-F						< 0.004	●	●	●	●
		18205MFR-F	090302MFR-F						< 0.008	●	●	●	●
		1821MFR-F	090304MFR-F						< 1/64	●	●	●	●
Low Feed 	Sharp Edge	TNGU 18202MFR-U	TNGU 090301MFR-U	1	6	7/32	1/8	0.118	< 0.004	●	●	●	E66
		18205MFR-U	090302MFR-U						< 0.008	●	●	●	
		1821MFR-U	090304MFR-U						< 1/64	●	●	●	
Low Feed 	Honed Edge	TNGU 1821MER-U	TNGU 090304MER-U	1	6	7/32	1/8	0.118	< 1/64	●	●		

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
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GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

55° Diamond

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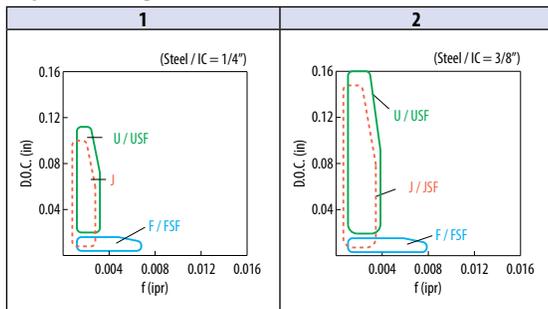
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Angle (°)	Carbide			Applicable Toolholder Page	
				No. of Edges	IC	S	D1		RE	AN	PVD		TiN60
Finishing - Medium	DCGT 21505L-FS	DCGT 070202L-FS	1	2	1/4	3/32	0.110	0.008	7				*1
	2151R-FS	070204R-FS											
	2151L-FS	070204L-FS			1/64								
	DCGT 32505R-FS	DCGT 11T302R-FS	2	2	3/8	5/32	0.173	0.008	7				*2
	32505L-FS	11T302L-FS						0.008					
	3251R-FS	11T304R-FS						1/64					
3251L-FS	11T304L-FS	1/64											
Finishing	DCGT 21501R-F	DCGT 0702003R-F	1	2	1/4	3/32	0.110	0.001	7				*1
	21501L-F	0702003L-F						0.001					
	21502R-F	070201R-F						0.004					
	21502L-F	070201L-F						0.004					
	21505R-F	070202R-F						0.008					
	21505L-F	070202L-F						0.008					
	2151R-F	070204R-F						1/64					
	2151L-F	070204L-F						1/64					
	DCGT 32501R-F	DCGT 11T3003R-F	2	2	3/8	5/32	0.173	0.001	7				*2
	32501L-F	11T3003L-F						0.001					
	32505R-F	11T302R-F						0.008					
	32505L-F	11T302L-F						0.008					
	3251R-F	11T304R-F						1/64					
	3251L-F	11T304L-F						1/64					
	DCGT 215013MR-F	DCGT 0702005MR-F	1	2	1/4	3/32	0.110	< 0.002	7				*1
	215013ML-F	0702005ML-F						< 0.002					
	21502MR-F	070201MR-F						< 0.004					
	21502ML-F	070201ML-F						< 0.004					
	21505MR-F	070202MR-F						< 0.008					
	21505ML-F	070202ML-F						< 0.008					
	2151MR-F	070204MR-F						< 1/64					
	2151ML-F	070204ML-F						< 1/64					
	DCGT 325013MR-F	DCGT 11T3005MR-F	2	2	3/8	5/32	0.173	< 0.002	7				*2
	32502MR-F	11T301MR-F						< 0.004					
32502ML-F	11T301ML-F	< 0.004											
32505MR-F	11T302MR-F	< 0.008											
32505ML-F	11T302ML-F	< 0.008											
3251MR-F	11T304MR-F	< 1/64											
3251ML-F	11T304ML-F	< 1/64											

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

*1: DC.215... E30~E31, E33, E36~E37, E59~E60, E72, F74~F87, F135

*2: DC.325... E23, E30~E34, E36~E37, E59~E60, E72, F74~F87, F135

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

55° Diamond

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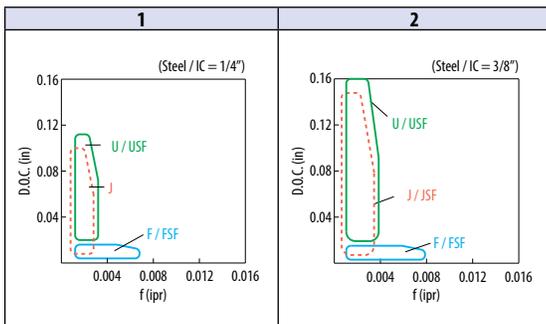
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Angle (°)	Carbide	Applicable Toolholder Page
					IC	S	D1	RE			
Low Feed Sharp Edge	DCGT 21501FR-U	DCGT 0702003FR-U	1	2	1/4	3/32	0.110	0.001	7	●	*1
	21501FL-U	0702003FL-U						0.001		●	
	21502FR-U	070201FR-U						0.004		●	
	21502FL-U	070201FL-U						0.004		●	
	21505FR-U	070202FR-U						0.008		●	
	21505FL-U	070202FL-U						0.008		●	
	DCGT 32501FR-U	DCGT 11T3003FR-U	2	2	3/8	5/32	0.173	0.001	7	●	*2
	32501FL-U	11T3003FL-U						0.001		●	
	32502FR-U	11T301FR-U						0.004		●	
	32502FL-U	11T301FL-U						0.004		●	
	32505FR-U	11T302FR-U						0.008		●	
	32505FL-U	11T302FL-U						0.008		●	
	DCGT 215013MFR-U	DCGT 0702005MFR-U	1	2	1/4	3/32	0.110	< 0.002	7	●	*1
	215013MFL-U	0702005MFL-U						< 0.002		●	
	21502MFR-U	070201MFR-U						< 0.004		●	
	21502MFL-U	070201MFL-U						< 0.004		●	
	21505MFR-U	070202MFR-U						< 0.008		●	
	21505MFL-U	070202MFL-U						< 0.008		●	
	2151MFR-U	070204MFR-U						< 1/64		●	
	2151MFL-U	070204MFL-U						< 1/64		●	
	DCGT 325013MFR-U	DCGT 11T3005MFR-U	3	2	3/8	5/32	0.173	< 0.002	7	●	*2
	32502MFR-U	11T301MFR-U						< 0.004		●	
	32502MFL-U	11T301MFL-U						< 0.004		●	
	32505MFR-U	11T302MFR-U						< 0.008		●	
32505MFL-U	11T302MFL-U	< 0.008						●			
3251MFR-U	11T304MFR-U	< 1/64						●			
3251MFL-U	11T304MFL-U	< 1/64						●			

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

*1: DC..215... E30~E31, E33, E36~E37, E59~E60, E72, F74~F87, F135

*2: DC..325... E23, E30~E34, E36~E37, E59~E60, E72, F74~F87, F135

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

55° Diamond

How to read this page See page B15

B TURNING INSERTS

POSITIVE

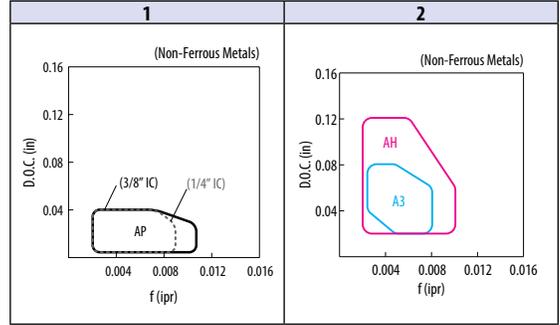


CERAMIC

Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)					Angle (°)	Carbide			Applicable Toolholder Page	
				No. of Edges	IC	S	D1	RE		AN	DLC			
											PDL010	PDL025		KV10
 Finishing / Sharp Edge	DCGT 21505AP	DCGT 070202AP	1	2	1/4	3/32	0.110	0.008	7	●	●	●	*1	
	2151AP	070204AP								●	●	●		
	DCGT 32505AP	DCGT 11T302AP	1	2	3/8	5/32	0.173	1/64	7	●	●	●	*2	
	3251AP	11T304AP								●	●	●		
3252AP	11T308AP	●	●	●										
 Finishing - Medium / Sharp Edge	DCGT 32505R-A3	DCGT 11T302R-A3	2	2	3/8	5/32	0.173	0.008	7	●	●	●	*2	
	32505L-A3	11T302L-A3						0.008		●	●	●		
	3251R-A3	11T304R-A3						1/64		●	●	●		
	3251L-A3	11T304L-A3						1/64		●	●	●		
	3252R-A3	11T308R-A3						1/32		●	●	●		
	3252L-A3	11T308L-A3						1/32		●	●	●		
 Finishing - Medium / Sharp Edge	DCGT 3251AH	DCGT 11T304AH	2	2	3/8	5/32	0.173	1/64	7	●	●	●	*2	
	3252AH	11T308AH						1/32		●	●	●		
 Without Chipbreaker	DCGW 21502	DCGW 070201	-	2	1/4	3/32	0.110	0.004	7	●	●	●	*1	
	21505	070202						0.008		●	●	●		
	DCGW 32502	DCGW 11T301	-	2	3/8	5/32	0.173	0.004	7	●	●	●	*2	
	32505	11T302						0.008		●	●	●		
3251	11T304	1/64	●	●	●									

*1: DC..215... E30~E31, E33, E36~E37, E59~E60, E72, F74~F87, F135
 *2: DC..325... E23, E30~E34, E36~E37, E59~E60, E72, F74~F87, F135

Chipbreaker Range



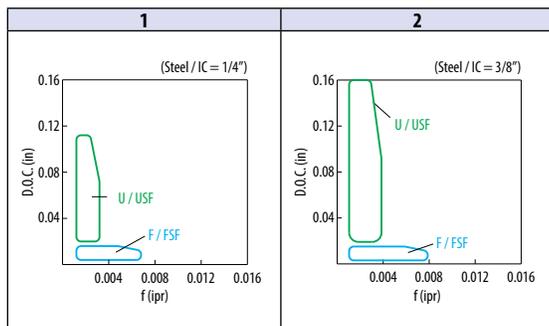
55° Diamond

How to read this page See page B15

Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Angle (°)	Coated		Applicable Toolholder Page																																																																																																		
				No. of Edges	IC	S	D1		RE	AN		Carbide	Cermet																																																																																																
												PRI75	PR930	TN60																																																																																															
<table border="1"> <tr><td>Free-cutting steel</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>P</td></tr> <tr><td>Carbon steel / Alloy steel</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>P</td></tr> <tr><td>Stainless Steel</td><td>△</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>M</td></tr> <tr><td>Gray cast iron</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>K</td></tr> <tr><td>Nodular cast iron</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>K</td></tr> <tr><td>Non-ferrous metals</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>N</td></tr> <tr><td>Heat-resistant alloy</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>S</td></tr> <tr><td>Titanium alloy</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>S</td></tr> <tr><td>Hard materials</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>H</td></tr> </table>											Free-cutting steel										P	Carbon steel / Alloy steel	●									P	Stainless Steel	△									M	Gray cast iron										K	Nodular cast iron										K	Non-ferrous metals										N	Heat-resistant alloy										S	Titanium alloy										S	Hard materials										H
Free-cutting steel										P																																																																																																			
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Titanium alloy										S																																																																																																			
Hard materials										H																																																																																																			
Finishing Precision / Sharp Edge	DPET 21501R-FSF	DPET 0702003R-FSF	1	2	1/4	3/32	0.110	0.001	11	●	●	E39																																																																																																	
	21502R-FSF	070201R-FSF						0.004		●																																																																																																			
	21505R-FSF	070202R-FSF						0.008		●																																																																																																			
	21505L-FSF	070202L-FSF						0.008		●																																																																																																			
	DPET 32501R-FSF	DPET 11T3003R-FSF	2	2	3/8	5/32	0.173	0.001	11	●	●																																																																																																		
	32502R-FSF	11T301R-FSF						0.004		●																																																																																																			
	32505R-FSF	11T302R-FSF						0.008		●																																																																																																			
	32505L-FSF	11T302L-FSF						0.008		●																																																																																																			
	DPET 21505MR-FSF	DPET 070202MR-FSF	1	2	1/4	3/32	0.110	< 0.008	11	●	●																																																																																																		
	21505ML-FSF	070202ML-FSF						< 0.008		●																																																																																																			
	DPET 325013MR-FSF	DPET 11T3005MR-FSF	2	2	3/8	5/32	0.173	< 0.002	11	●	●																																																																																																		
	32502MR-FSF	11T301MR-FSF						< 0.004		●																																																																																																			
32505MR-FSF	11T302MR-FSF	< 0.008						●																																																																																																					
Low Feed Precision / Sharp Edge	DPET 21501FR-USF	DPET 0702003FR-USF	1	2	1/4	3/32	0.110	0.001	11	●	●																																																																																																		
	21502FR-USF	070201FR-USF						0.004		●																																																																																																			
	21505FR-USF	070202FR-USF						0.008		●																																																																																																			
	21505FL-USF	070202FL-USF						0.008		●																																																																																																			
	DPET 32501FR-USF	DPET 11T3003FR-USF	2	2	3/8	5/32	0.173	0.001	11	●	●																																																																																																		
	32502FR-USF	11T301FR-USF						0.004		●																																																																																																			
	32502FL-USF	11T301FL-USF						0.004		●																																																																																																			
	32505FR-USF	11T302FR-USF						0.008		●																																																																																																			
	32505FL-USF	11T302FL-USF	0.008	●	●																																																																																																								
	DPET 215013MFR-USF	DPET 0702005MFR-USF	1	2	1/4	3/32	0.110	< 0.002	11	●	●																																																																																																		
	21502MFR-USF	070201MFR-USF						< 0.004		●																																																																																																			
	21505MFR-USF	070202MFR-USF						< 0.008		●																																																																																																			
DPET 325013MFR-USF	DPET 11T3005MFR-USF	2	2	3/8	5/32	0.173	< 0.002	11	●	●																																																																																																			
32502MFR-USF	11T301MFR-USF						< 0.004		●																																																																																																				
32505MFR-USF	11T302MFR-USF						< 0.008		●																																																																																																				

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN / PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

70° Diamond

How to read this page See page B15

B
TURNING
INSERTS

POSITIVE

C

D

R

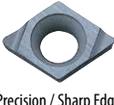
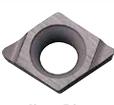
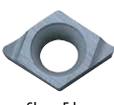
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V

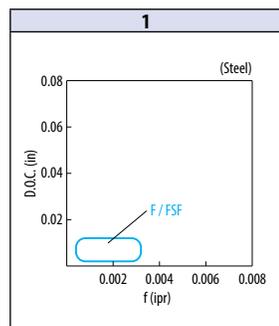
W

CERAMIC

Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Angle (°)	Material				Applicable Toolholder Page
					IC	S	D1	RE		AN	Carbide		Cermet	
											PVD	-		
 Precision / Sharp Edge	JCET 110905R-FSF	JCET 030102R-FSF	1	2	0.138	0.055	0.075	0.008	7	●	●	●	●	
	JCET 110905L-FSF	JCET 030102L-FSF								●	●	●		
	JCET 11091L-FSF	JCET 030104L-FSF								●	●	●		
 Sharp Edge	JCET 110902MR-FSF	JCET 030101MR-FSF	1	2	0.138	0.055	0.075	< 0.004	7	●	●	●	●	
	JCET 110902ML-FSF	JCET 030101ML-FSF						< 0.004		●	●	●		
	JCET 110905MR-F	JCET 030102MR-F						< 0.008		●	●	●		
 Sharp Edge	JCGT 110902R-F	JCGT 030101R-F	1	2	0.138	0.055	0.075	0.004	7	●	●	●	●	
	JCGT 110902L-F	JCGT 030101L-F						0.004		●	●	●		
	JCGT 110905R-F	JCGT 030102R-F						0.008		●	●	●		
	JCGT 110905L-F	JCGT 030102L-F						0.008		●	●	●		
	JCGT 11091R-F	JCGT 030104R-F						1/64		●	●	●		
JCGT 11091L-F	JCGT 030104L-F	1/64	●	●	●									

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



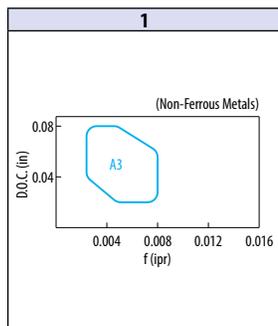
60° Triangle

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		Free-cutting steel							P					
		Carbon steel / Alloy steel							M					
		Stainless Steel							K					
		Gray cast iron							N					
		Nodular cast iron							S					
		Non-ferrous metals							H					
		Heat-resistant alloy												
		Titanium alloy												
		Hard materials												
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)					Angle (°)	Carbide			Applicable Toolholder Page	
				No. of Edges	IC	S	D1	RE		AN	DLC	-		
											PDL010	PDL025	KW10	
Non-Ferrous Metals  Finishing - Medium / Sharp Edge	TCGT 2205R-A3	TCGT 110302R-A3	1	3	1/4	1/8	0.110	0.008	7	●	●	●	E40	
	2205L-A3	110302L-A3												0.008
	221R-A3	110304R-A3												1/64
	221L-A3	110304L-A3												1/64
	222R-A3	110308R-A3												1/32
	222L-A3	110308L-A3												1/32
Cast Iron  Without Chipbreaker	TCGW 151502	TCGW 080201	-	3	3/16	3/32	0.098	0.004	7	●	●	●	E40	
	151505	080202						0.008		●	●	●		
	TCGW 2202	TCGW 110301						0.004		●	●	●		
	2205	110302	-	3	1/4	1/8	0.110	0.008	7	●	●	●		
	221	110304						1/64		●	●	●		

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

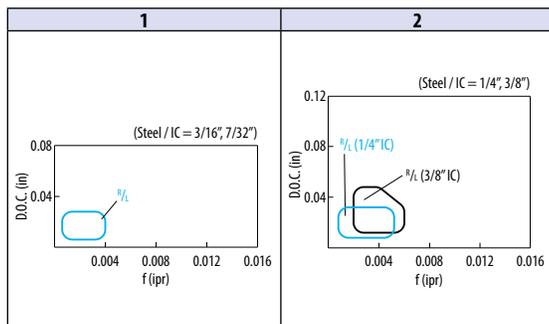
60° Triangle

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Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)						Angle (°)	Carbide	Applicable Toolholder Page
				No. of Edges	IC	S	D1	RE	AN			
Finishing	TPGH 151502ML	TPGH 080201ML	1	3	3/16	3/32	0.091	< 0.004	11	●	E41 F90~F94 F98	
	151505MR	080202MR						< 0.008				
	151505ML	080202ML						< 0.008				
	15151MR	080204MR						< 1/64				
	15151ML	080204ML						< 1/64				
	TPGH 181502ML	TPGH 090201ML	1	3	7/32	3/32	0.126	< 0.004	11	●	F35~F36 F90~F94 F98	
	181505MR	090202MR						< 0.008				
	181505ML	090202ML						< 0.008				
	18151MR	090204MR						< 1/64				
	18151ML	090204ML						< 1/64				
	TPGH 21505ML	TPGH 110202ML	2	3	1/4	3/32	0.146	< 0.008	11	●	F96 F97	
	2151ML	110204ML						< 1/64				
	TPGH 2205MR	TPGH 110302MR	2	3	1/4	1/8	0.130	< 0.008	11	●	E41 F90~F97 F136	
	2205ML	110302ML						< 0.008				
	221MR	110304MR						< 1/64				
	221ML	110304ML						< 1/64				
	222ML	110308ML						< 1/32				
	TPGH 3205ML	TPGH 160302ML	4	3	3/8	1/8	0.185	< 0.008	11	●	F90~F92 F96, F136	
	321MR	160304MR						< 1/64				
	321ML	160304ML						< 1/64				
	322ML	160308ML						< 1/32				

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



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CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

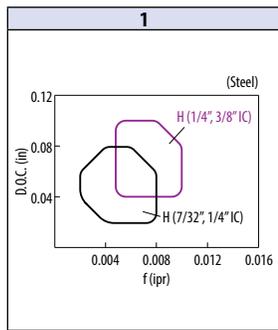
60° Triangle

How to read this page See page B15

		Material Compatibility														
		Free-cutting steel														
		Carbon steel / Alloy steel	●	△	●	●	●	●	●	●	●	P				
		Stainless Steel	●	△	●	●	●	●	●	●	M					
		Gray cast iron														
		Nodular cast iron									K					
		Non-ferrous metals									N					
		Heat-resistant alloy	✳								S					
		Titanium alloy	●	△												
		Hard materials									H					
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)					Angle (°)	Carbide		Cermet		Applicable Toolholder Page		
				No. of Edges	IC	S	D1	RE		AN	PVD	-	PVD		-	
											PR1535 PR1725 PR830	KW10	PV710 PV720 PV730		TN60 TN610 TN620	
Medium	TPGH 181502L-H	TPGH 090201L-H	1	3	7/32	3/32	0.126	0.004	11	●	●					F35~F36 F90~F94 F98
	181505L-H	090202L-H						0.008		●	●					
	18151L-H	090204L-H						1/64		●	●					
	TPGH 2205R-H	TPGH 110302R-H	1	3	1/4	1/8	0.130	0.008	11	●	●	●	●	●	●	E41 F90~F97 F136
	2205L-H	110302L-H						0.008		●	●	●	●	●	●	
	221R-H	110304R-H						1/64		●	●	●	●	●	●	
	221L-H	110304L-H						1/64		●	●	●	●	●	●	
	222R-H	110308R-H						1/32		●	●	●	●	●	●	
	222L-H	110308L-H						1/32		●	●	●	●	●	●	
	TPGH 321R-H	TPGH 160304R-H	1	3	3/8	1/8	0.185	1/64	11	●	●	●	●	●	●	F90~F92 F96, F136
	321L-H	160304L-H						1/64		●	●	●	●	●		
	322R-H	160308R-H						1/32		●	●	●	●	●		
	322L-H	160308L-H						1/32		●	●	●	●	●		
	TPGT 3305L-H	TPGT 160402L-H	1	3	3/8	3/16	0.177	0.008	11			●	●	●	●	-
	331L-H	160404L-H						1/64				●	●	●	●	
TPGH 2205ML-H	TPGH 110302ML-H	1	3	1/4	1/8	0.130	< 0.008	11	●						E41 F90~F97 F136	
221ML-H	110304ML-H						< 1/64		●							
TPGH 321ML-H	TPGH 160304ML-H	1	3	3/8	1/8	0.185	< 1/64	11	●						F90~F92 F96, F136	

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



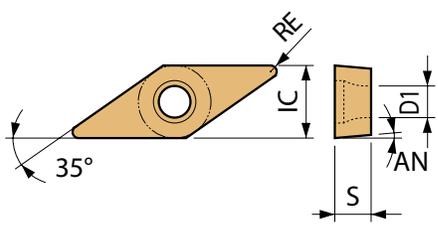
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
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Inserts sold in 10 piece boxes

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TURNING INSERTS	B
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THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

35° Diamond

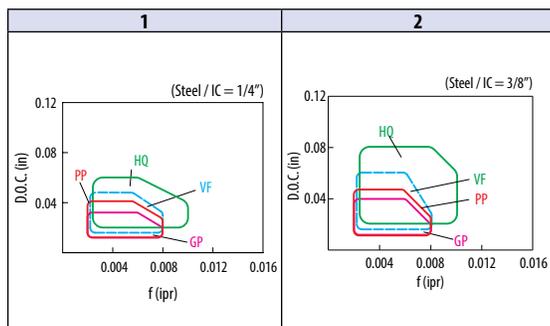
How to read this page See page B15



Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)					Angle (°)	Carbide										Cermet					Applicable Toolholder Page									
				No. of Edges	IC	S	D1	RE		AN	CVD					PVD					CVD	PVD		-										
											CA025P	CA115P	CA125P	CA510	CA515	CA525	CA530	CA6515	PR1225	PR1535		PR1725	PR930			CCX	PV7005	PV710	PV720	PV730	PV90	TK60	TK610	TK620
Free-cutting steel																										P								
Carbon steel / Alloy steel																										P								
Stainless Steel																										M								
Gray cast iron																										K								
Modular cast iron																										K								
Non-ferrous metals																										N								
Heat-resistant alloy																										S								
Titanium alloy																										S								
Hard materials																										H								

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

Chipbreaker Range



● : Standard Item △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

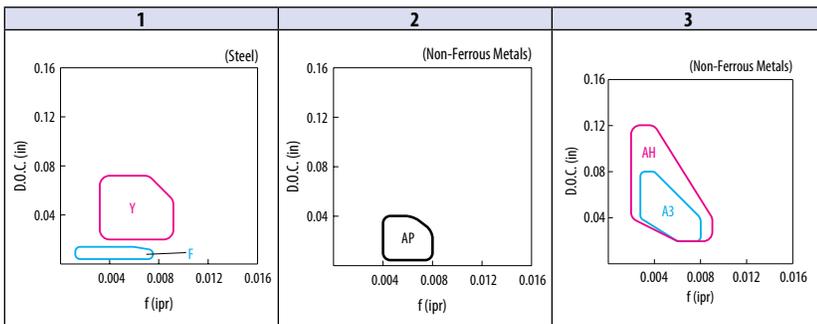
35° Diamond

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Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Angle (°)	Carbide				Applicable Toolholder Page			
					IC	S	D1	RE		AN	P	M	K		N	S	H
Finishing	VCET 2202MR-F 2202ML-F 2205MR-F 2205ML-F 221MR-F 221ML-F	VCET 110301MR-F 110301ML-F 110302MR-F 110302ML-F 110304MR-F 110304ML-F	1	2	1/4	1/8	0.110	< 0.004 < 0.004 < 0.008 < 0.008 < 1/64 < 1/64	7	●	●	●	●	●	●	E48~E50 E63	
Finishing - Medium Sharp Edge	VCET 22013MR-Y 22013ML-Y 2202MR-Y 2202ML-Y 2205MR-Y 2205ML-Y 221MR-Y 221ML-Y	VCET 1103005MR-Y 1103005ML-Y 110301MR-Y 110301ML-Y 110302MR-Y 110302ML-Y 110304MR-Y 110304ML-Y	1	2	1/4	1/8	0.110	< 0.002 < 0.002 < 0.004 < 0.004 < 0.008 < 0.008 < 1/64 < 1/64	7	●	●	●	●	●	●	E48~E50 E63	
Non-Ferrous Metals Finishing / Sharp Edge	VCGT 331AP	VCGT 160404AP	2	2	3/8	3/16	0.173	1/64	7	●	●	●	●	●	E45~E47 F102~F103 F106~F114		
Non-Ferrous Metals Finishing - Medium / Sharp Edge	VCGT 331R-A3 331L-A3 332R-A3 332L-A3	VCGT 160404R-A3 160404L-A3 160408R-A3 160408L-A3	3	2	3/8	3/16	0.173	1/64 1/64 1/32 1/32	7	●	●	●	●	●	E45~E47 F102~F103 F106~F114		
Non-Ferrous Metals Finishing - Medium / Sharp Edge	VCGT 331AH	VCGT 160404AH	3	2	3/8	3/16	0.173	1/64	7	●	●	●	●	●	E48~E50 E63		
Medium Sharp Edge	VCGT 2202FN-Z 2205FN-Z 221FN-Z	VCGT 110301FN-Z 110302FN-Z 110304FN-Z	-	2	1/4	1/8	0.110	0.004 0.008 1/64	7	●	●	●	●	●	E45~E47 F102~F103 F106~F114		
Medium - Roughing	VCGT 333	VCGT 160412	-	2	3/8	3/16	0.173	3/64	7	●	●	●	●	●	E45~E47 F102~F103 F106~F114		

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



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Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

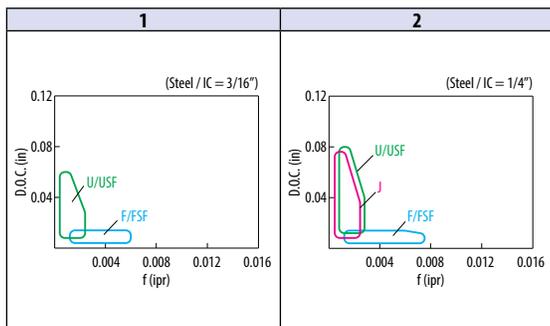
35° Diamond

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Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	Dimensions (in)				Angle (°)	Material				Applicable Toolholder Page	
				No. of Edges	IC	S	D1		RE	AN	Carbide			Cermet
											PR1725	PR1535		PR1725
Finishing Precision / Sharp Edge	VPET 151502R-FSF 151502L-FSF 151505R-FSF 151505L-FSF	VPET 080201R-FSF 080201L-FSF 080202R-FSF 080202L-FSF	1	2	3/16	3/32	0.091	0.004	11	●	●	●	E52~E53 F102~F103	
										●	●	●		
										●	●	●		
										●	●	●		
	VPET 2201R-FSF 2202R-FSF 2202L-FSF 2205R-FSF 2205L-FSF	VPET 1103003R-FSF 110301R-FSF 110301L-FSF 110302R-FSF 110302L-FSF	2	2	1/4	1/8	0.110	0.001	11	●	●	●	E24 E51~E53	
								0.004		●	●	●		
								0.004		●	●	●		
								0.008		●	●	●		
	VPET 151502MR-FSF 151502ML-FSF 151505MR-FSF 151505ML-FSF	VPET 080201MR-FSF 080201ML-FSF 080202MR-FSF 080202ML-FSF	1	2	3/16	3/32	0.091	< 0.004	11	●	●	●	E52~E53 F102~F103	
								< 0.004		●	●	●		
								< 0.008		●	●	●		
								< 0.008		●	●	●		
VPET 22013MR-FSF 2202MR-FSF 2202ML-FSF 2205MR-FSF 2205ML-FSF	VPET 1103005MR-FSF 110301MR-FSF 110301ML-FSF 110302MR-FSF 110302ML-FSF	2	2	1/4	1/8	0.110	< 0.002	11	●	●	●	E24 E51~E53		
							< 0.004		●	●	●			
							< 0.004		●	●	●			
							< 0.008		●	●	●			
Finishing Sharp Edge	VPET 151502MR-F 151502ML-F 151505MR-F 151505ML-F	VPET 080201MR-F 080201ML-F 080202MR-F 080202ML-F	1	2	3/16	3/32	0.091	< 0.004	11	●	●	●	E52~E53 F102~F103	
								< 0.004		●	●	●		
								< 0.008		●	●	●		
								< 0.008		●	●	●		
	VPET 22013MR-F 2202MR-F 2205MR-F 2205ML-F	VPET 1103005MR-F 110301MR-F 110302MR-F 110302ML-F	2	2	1/4	1/8	0.110	< 0.002	11	●	●	●	E24 E51~E53	
								< 0.004		●	●	●		
								< 0.004		●	●	●		
								< 0.008		●	●	●		

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



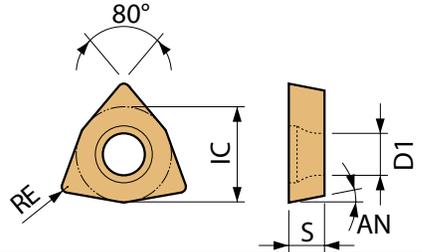
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

80° Trigon

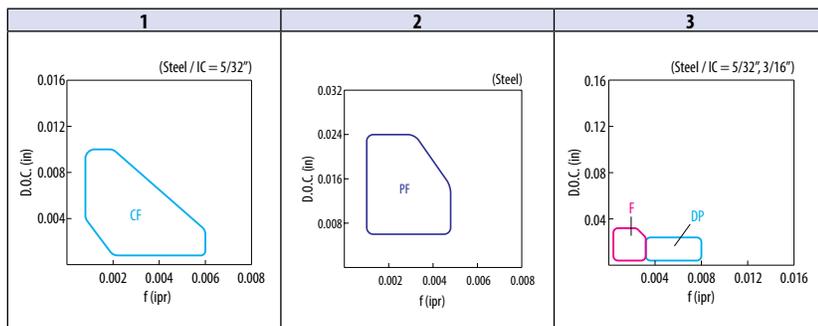
How to read this page See page B15



		Free-cutting steel											Carbon steel / Alloy steel											Stainless Steel											Gray cast iron											Modular cast iron											Non-ferrous metals											Heat-resistant alloy											Titanium alloy											Hard materials										
		P											M											K											N											S											H																																											
Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Angle (°)	Carbide						Cermet					Applicable Toolholder Page																																																																															
					IC	S	D1	RE		AN	CVD			PVD			CVD		PVD																																																																																	
										CA025P	CA115P	CA125P	CA510	CA515	CA525	CA530	PR1225	PR1535	PR1705	PR1725	PR930	CCX	PV710	PV720	PV730	TN60	TN610	TN620																																																																								
Minute D.O.C. Polished / Sharp Edge	WBGT 12102MPR-CF 12102MPL-CF 12105MPR-CF 12105MPL-CF	WBGT 060101MPR-CF 060101MPL-CF 060102MPR-CF 060102MPL-CF	1	3	5/32	1/16	0.094	< 0.004 < 0.004 < 0.008 < 0.008	5																																																																																											
Finishing Polished / Sharp Edge	WBGT 12102MFPR-PF 12102MFPL-PF 12105MFPR-PF 12105MFPL-PF	WBGT 060101MFPR-PF 060101MFPL-PF 060102MFPR-PF 060102MFPL-PF	2	3	5/32	1/16	0.094	< 0.004 < 0.004 < 0.008 < 0.008	5																																																																																											
Finishing	WBMT 12105R-DP 12105L-DP 1211R-DP 1211L-DP	WBMT 060102R-DP 060102L-DP 060104R-DP 060104L-DP	3	3	5/32	1/16	0.091	0.008 0.008 1/64 1/64	5																																																																																											
Finishing Sharp Edge	WBET 121013ML-F 12102MR-F 12102ML-F 12105MR-F 12105ML-F 1211MR-F 1211ML-F	WBET 0601005ML-F 060101MR-F 060101ML-F 060102MR-F 060102ML-F 060104MR-F 060104ML-F	3	3	5/32	1/16	0.091	< 0.002 < 0.004 < 0.004 < 0.008 < 0.008 < 1/64 < 1/64	5																																																																																											
Finishing	WBET 151502MR-F 151502ML-F 151505MR-F 151505ML-F 15151MR-F 15151ML-F	WBET 080201MR-F 080201ML-F 080202MR-F 080202ML-F 080204MR-F 080204ML-F	3	3	3/16	3/32	0.091	< 0.004 < 0.004 < 0.008 < 0.008 < 1/64 < 1/64	5																																																																																											

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

Chipbreaker Range



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SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

80° Trigon

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B
TURNING
INSERTS

POSITIVE

C

D

R

S

T

V

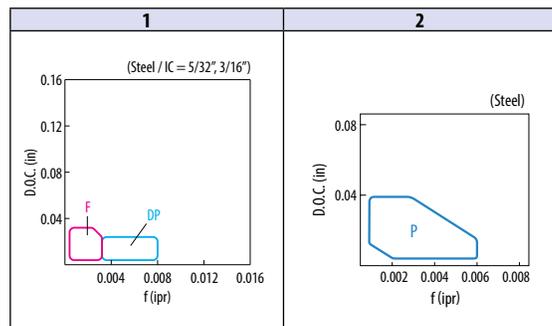
W

CERAMIC

Insert	Part Number ANSI	Part Number ISO	Chipbreaker Range	No. of Edges	Dimensions (in)				Angle (°)	Material				Applicable Toolholder Page
					IC	S	D1	RE		AN	Carbide		Cermet	
											PVD	-		
 Sharp Edge	WBGT 12101L-F	WBGT 0601003L-F	1	3	5/32	1/16	0.091	0.001	5	●	●	●	●	F38 F116~F118 F120~F121
	12102R-F	060101R-F								●	●	●	●	
	12102L-F	060101L-F								●	●	●	●	
	12105R-F	060102R-F								●	●	●	●	
	12105L-F	060102L-F								●	●	●	●	
	1211R-F	060104R-F								●	●	●	●	
	1211L-F	060104L-F								●	●	●	●	
	WBGT 151502L-F	WBGT 080201L-F	1	3	3/16	3/32	0.091	0.004	5	●	●	●	●	
	151505R-F	080202R-F								●	●	●	●	
	151505L-F	080202L-F								●	●	●	●	
	15151R-F	080204R-F								●	●	●	●	
	15151L-F	080204L-F								●	●	●	●	
	151502MR-P	080201MR-P								●	●	●	●	
	151502ML-P	080201ML-P								●	●	●	●	
151505MR-P	080202MR-P	●	●	●	●									
151505ML-P	080202ML-P	●	●	●	●									
15151MR-P	080204MR-P	●	●	●	●									
15151ML-P	080204ML-P	●	●	●	●									
 Sharp Edge	WBET 151502MR-P	WBET 080201MR-P	2	3	3/16	3/32	0.091	< 0.004	5	●	●	●	●	
	151502ML-P	080201ML-P						< 0.004		●	●	●	●	
	151505MR-P	080202MR-P						< 0.008		●	●	●	●	
151505ML-P	080202ML-P	< 0.008						●		●	●	●		
15151MR-P	080204MR-P	< 1/64						●		●	●	●		
15151ML-P	080204ML-P	< 1/64						●		●	●	●		
 Without Chipbreaker	WBGW 12105L	WBGW 060102L	-	3	5/32	1/16	0.091	0.008	5	●	●	●	●	
	WBGW 151505L	WBGW 080202L	-	3	3/16	3/32	0.091	0.008	5	●	●	●	●	
	15151L	080204L	-	3	3/16	3/32	0.091	1/64	5	●	●	●	●	

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

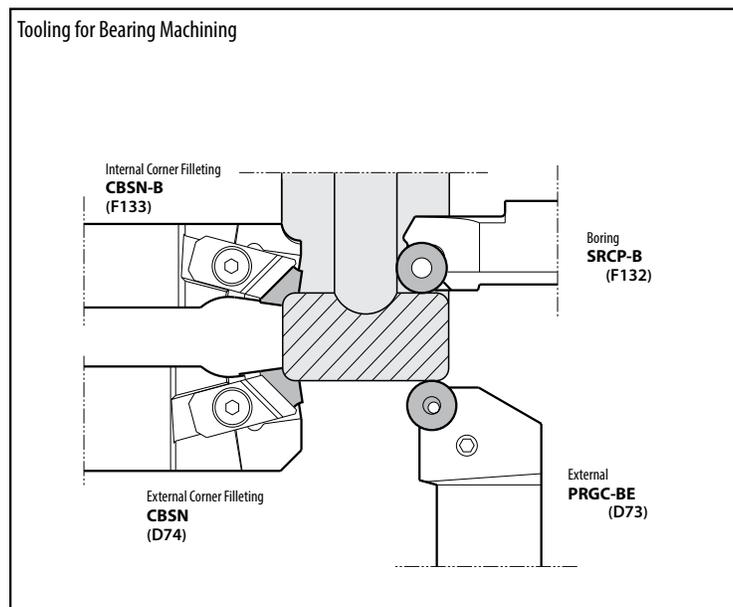
Chipbreaker Range



Round / SNMF Type

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			Free-cutting steel											P
			Carbon steel / Alloy steel											M
			Stainless Steel											K
			Gray cast iron											N
			Nodular cast iron											S
			Non-ferrous metals											H
			Heat-resistant alloy											
			Titanium alloy											
			Hard materials											
Insert	Part Number ANSI	Part Number ISO	No. of Edges	Dimensions (in)							Angle (°)	Cermet	Applicable Toolholder Page	
				CDX	INSL	IC	S	D1	RE	AN	TN90			
 External / Boring / Facing	Use ISO Part Number	RCMT 1204M0-BB	-	-	-	0.472	3/16	0.165	-	7	●	D73		
		RCMT 1606M0-BB	-	-	-	0.630	1/4	0.217	-	7	●			
	RPMT 42M0-BB	RPMT 1203M0-BB	-	-	-	0.472	1/8	0.173	-	11	●	F132		
Use ISO Part Number	RPMT 1604M0-BB	-	-	-	0.630	3/16	0.217	-	11	●				
 Corner Filleting	SNMF 120406-21	SNMF 120406-21	8	0.059	1/2	-	4.76	-	0.024	-	●	D74 F133		
	SNMF 120410-21	SNMF 120410-21		0.118					0.039		●			
	SNMF 120416-21	SNMF 120416-21		0.122					0.063		●			
	SNMF 120421-21	SNMF 120421-21		0.126					0.083		●			
	SNMF 120426-21	SNMF 120426-21		0.130					0.102		●			



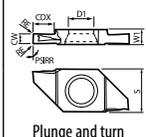
● : Standard Item △ : Phaseout Item (will be removed from next catalog)
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Inserts sold in 10 piece boxes

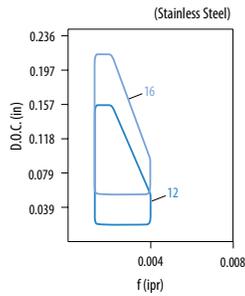
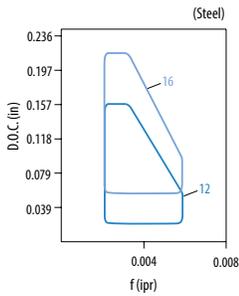
INSERT GRADES	A
TURNING INSERTS	B
CBN / PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
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TKF-GTP

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Insert		Part Number		No. of Edges	Dimensions (mm)							Angle (°)	Carbide		Applicable Toolholder Page
					CW		CDX	S	D1	RE	W1		PSIRR	PVD	
		in	mm												
					Free-cutting steel								●	●	P
					Carbon steel / Alloy steel							☉	●		
					Stainless Steel							●	☉		M
					Gray cast iron										K
					Nodular cast iron										K
					Non-ferrous metals										N
					Heat-resistant alloy							✖	☉		S
					Titanium alloy							●			S
					Hard materials										H
 <p>Plunge and turn</p>		TKF 12R200-GTP		2	0.079	2	4.3	8.7	5.2	0.08	3	0	●	●	E15 E16
		TKF 16R300-GTP		2	0.118	3	5.8	9.5	5.2	0.08	4	0	●	●	

Applicable Chipbreaker Range



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GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

ABS / ABW

How to read this page See page B15

B
TURNING
INSERTS

NEGATIVE

- -
 -
 -
 -
 -
 -
- CERAMIC

Insert		Part Number	No. of Edges	Dimensions (mm)	Carbide						Cermet	Applicable Toolholder Page	
					RE	PVD		-		-			
						PR1725	PR1705	PR1725	PR930	KW10			TC60
					Free-cutting steel	●						P	
					Carbon steel / Alloy steel	☉	●	☉				P	
					Stainless Steel	●	☉	☉				M	
					Gray cast iron					●		K	
					Nodular cast iron					☉		K	
					Non-ferrous metals					●		N	
					Heat-resistant alloy	●	☉					S	
					Titanium alloy					●		S	
					Hard materials							H	
		ABS 15R4005M	2	< 0.05	●	●	●				E20		
		15R4015M		< 0.15	●	●	●						
		ABS 15R4005	2	0.05				●	●	●	E20		
		15R4015		0.15				●	●	●			
		ABW 15R4005M	2	< 0.05	●	●	●				E21		
		15R4015M		< 0.15	●	●	●						
		ABW 15R4005	2	0.05				●	●	●	E21		
		15R4015		0.15				●	●	●			
		ABW 23R5005M	2	< 0.05	●	●					E22		
		23R5015M		< 0.15	●	●	●						
		ABW 23R5005	2	0.05				●	●		E22		
		23R5015		0.15				●	●				

Inserts with corner-R (RE) dimension expressed with less than sign (e.g. <0.002, <0.004, <0.008 etc.) indicate models with minus tolerance for corner-R (RE).

80° Diamond

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Cutting Edge Preparation				Material Compatibility												Applicable Toolholder Page										
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Nodular cast iron (without scale)	Heat-resistant alloy	Hard materials	Ceramic																
Symbol	Specification	Example		Edge Prep (mm)	No. of Edges	Dimensions (in)				CVD	PVD	-														
S	Chamfered and R-Honed	S00625	0.006" × 25° Chamfered and R-Honed			IC	S	D1	RE			CS7050	A66N	PT600M	A65	KA30	KS001	KS6015	KS6040	KS6050	KT66					
T	Chamfered	T00825	0.008" × 25° Chamfered	Edge Prep (in)	Part Number ANSI	Part Number ISO	IC	S	D1	RE	CS7050	A66N	PT600M	A65	KA30	KS001	KS6015	KS6040	KS6050	KT66						
	CNGA 432T00220 433T00220 434T00220	T00220	CNGA 120408T00520 120412T00520 120416T00520	T00520	4	1/2	3/16	0.203	1/32 3/64 1/16														D8~D11 F138 F147 F148			
	CNGA 432T00325 433T00325	T00325	CNGA 120408T08025 120412T08025	T00825	4	1/2	3/16	0.203	1/32 3/64																	
	CNGA 432T00420 433T00420	T00420	CNGA 120408T01020 120412T01020	T01020	4	1/2	3/16	0.203	1/32 3/64																	
	CNGA 433T00425AA 431T00625AA 432T00625AA 433T00625AA	S00425 S00625	CNGA 120412S01025 120404S01525 120408S01525 120412S01525	S01025 S01525	4	1/2	3/16	0.203	1/64 1/32 3/64																	
	CNGA 431T00625 432T00625 433T00625	T00625	CNGA 120404T01525 120408T01525 120412T01525	T01525	4	1/2	3/16	0.203	1/64 1/32 3/64																	
	CNGA 431S00825 432S00825 433S00825	S00825	CNGA 120404S02025 120408S02025 120412S02025	S02025	4	1/2	3/16	0.203	1/64 1/32 3/64																	
	CNGA 434T00820	T00820	CNGA 120416T02020	T02020	4	1/2	3/16	0.203	1/16																	
	CNGA 431T00825 432T00825 433T00825	T00825	CNGA 120404T02025 120408T02025 120412T02025	T02025	4	1/2	3/16	0.203	1/64 1/32 3/64																	
	CNGA 431T01230AA 432T01230AA 433T01230AA	S01230	CNGA 120404S03030 120408S03030 120412S03030	S03030	4	1/2	3/16	0.203	1/64 1/32 3/64																	
	CNGA 543T00825 544T00825	T00825	CNGA 160612T02025 160616T02025	T02025	4	5/8	1/4	0.250	3/64 1/16																	D10~D11
	CNGA 643T00825 644T00825	T00825	CNGA 190612T02025 190616T02025	T02025	4	3/4	1/4	0.313	3/64 1/16																	D10
	CNMA 432T00625AA 432T00625 433T00625	S00625 T00625	CNMA 120408S01525 120408T01525 120412T01525	S01525 T01525	4	1/2	3/16	0.203	1/32 3/64																	D8~D10 F116 F125 F126
	CNMA 432T01230AA 433T01230AA	S01230	CNMA 120408S03030 120412S03030	S03030	4	1/2	3/16	0.203	1/32 3/64																	
		CNG 432T00325 CNG 432T00420 CNG 433T00425AA	T00325 T00420 S00425	CNGN 120408T08025 120408T01020 120412S01025	T00825 T01020 S01025	4	1/2	3/16	-	1/32 1/32 3/64																
		CNG 432T00825 433T00825 434T00825	T00825	CNGN 120408T02025 120412T02025 120416T02025	T02025	4	1/2	3/16	-	1/32 3/64 1/16																
CNG 452T00220 453T00220 454T00220		T00220	CNGN 120708T00520 120712T00520 120716T00520	T00520	4	1/2	5/16	-	1/32 3/64 1/16																	
CNG 452T00625AA 453T00625 454T00625		S00625 T00625	CNGN 120708S01525 120712T01525 120716T01525	S01525 T01525	4	1/2	5/16	-	1/32 3/64 1/16																	D53
CNG 451T00825 452T00825 453T00825 454T00825		T00825	CNGN 120704T02025 120708T02025 120712T02025 120716T02025	T02025	4	1/2	5/16	-	1/64 1/32 3/64 1/16																	
CNG 552T00825 553T00825 554T00825		T00825	CNGN 160708T02025 160712T02025 160716T02025	T02025	4	5/8	5/16	-	1/32 3/64 1/16																	
CNM 452T00825		T00825	CNMN 120708T02025	T02025	4	1/2	5/16	-	1/32																	

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

55° Diamond

How to read this page See page B15

Cutting Edge Preparation

Symbol	Specification	Example	
S	Chamfered and R-Honed	S00625	0.006" × 25° Chamfered and R-Honed
T	Chamfered	T00825	0.008" × 25° Chamfered

Gray cast iron (with scale)				K
Gray cast iron (without scale)				
Nodular cast iron (with scale)				
Nodular cast iron (without scale)				
Heat-resistant alloy				S
Hard materials				H

Insert	Part Number ANSI	Edge Prep (in)	Part Number ISO	Edge Prep (mm)	No. of Edges	Dimensions (in)				Ceramic			Applicable Toolholder Page	
						IC	S	D1	RE	PVD				
										AG6N	PT600M	A65		
	DNGA 432T00325 433T00325	T00325	DNGA 150408T00825 150412T00825	T00825	4	1/2	3/16	0.203	1/32 3/64	●			D14~D19 F140, F152 F152~F156	
	DNGA 432T00625 433T00625	T00625	DNGA 150408T01525 150412T01525	T01525	4	1/2	3/16	0.203	1/32 3/64	●				
	DNGA 431T00625AA 432T00625AA 433T00625AA	S00625	DNGA 150404S01525 150408S01525 150412S01525	S01525	4	1/2	3/16	0.203	1/64 1/32 3/64	●				
	DNGA 431T00625	T00625	DNGA 150404T01525	T01525	4	1/2	3/16	0.203	1/64	●				
	DNGA 431S00825 432S00825	S00825	DNGA 150404S02025 150408S02025	S02025	4	1/2	3/16	0.203	1/64 1/32	●				
	DNGA 431T00825 432T00825 433T00825 434T00825	T00825	DNGA 150404T02025 150408T02025 150412T02025 150412T02025	T02025	4	1/2	3/16	0.203	1/64 1/32 3/64 1/16	●	●	●		
	DNGA 432T01230AA	S01230	DNGA 150408S03030	S03030	4	1/2	3/16	0.203	1/32	●				
	DNGA 441S00625 442T00625AA 443T00625AA 444T00625AA	S00625	DNGA 150604S01525 150608S01525 150612S01525 150616S01525	S01525	4	1/2	1/4	0.203	1/64 1/32 3/64 1/16	●				D14, D16 D18
	DNGA 441T00625 443T00625	T00625	DNGA 150604T01525 150612T01525	T01525	4	1/2	1/4	0.203	1/64 3/64	●				
	DNGA 441T00825 442T00825 443T00825	T00825	DNGA 150604T02025 150608T02025 150612T02025	T02025	4	1/2	1/4	0.203	1/64 1/32 3/64	●	●	●		
DNG 451T00625AA 452T00625AA 453T00625AA	S00625	DNGN 150704S01525 150708S01525 150712S01525	S01525	4	1/2	5/16	-	1/64 1/32 3/64	●			D54		
DNG 452S00825	S00825	DNGN 150708S02025	S02025	4	1/2	5/16	-	1/32	●					
DNG 451T00825 452T00825 453T00825 454T00825	T00825	DNGN 150704T02025 150708T02025 150712T02025 150716T02025	T02025	4	1/2	5/16	-	1/64 1/32 3/64 1/16	●	●	●			

B TURNING INSERTS

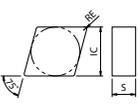
NEGATIVE



CERAMIC

75° Diamond

How to read this page [See page B15](#)

Cutting Edge Preparation				Material		Grade		Material		Grade	
Symbol	Specification	Example		Gray cast iron (with scale)		K		Heat-resistant alloy		S	
S	Chamfered and R-Honed	S00625	0.006" × 25° Chamfered and R-Honed	Gray cast iron (without scale)	☉	H		Hard materials	○	H	
T	Chamfered	T00825	0.008" × 25° Chamfered	Nodular cast iron (with scale)		C		Ceramic	PVD	-	Applicable Toolholder Page
				Nodular cast iron (without scale)		D					
Insert	Part Number ANSI	Edge Prep (in)	Part Number ISO	Edge Prep (mm)	No. of Edges	Dimensions (in)			Ceramic		Applicable Toolholder Page
						IC	S	RE	A66N	A65	
 	ENG 452T00625AA	S00625	ENGN 130708S01525	S01525	4	1/2	5/16	1/32	●		D55 F167
	ENG 451T00825		ENGN 130704T02025					1/64	●		
	452T00825		130708T02025					1/32	●		
	453T00825	T00825	130712T02025	T02025	4	1/2	5/16	3/64	●		
	454T00825		130716T02025					1/16	●		
	455T00825		130720T02025					5/64	●		

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

35° Diamond

How to read this page See page B15

Cutting Edge Preparation				Material				Ceramic				Applicable Toolholder Page
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Nodular cast iron (without scale)	Heat-resistant alloy	Hard materials	PVD	-	
Symbol	Specification	Example	Example	IC	S	D1	RE	A66N	PT600M	A65	KT66	
S	Chamfered and R-Honed	S00625	0.006" × 25° Chamfered and R-Honed									D34~D44
T	Chamfered	T00825	0.008" × 25° Chamfered									

80° Trigon

Cutting Edge Preparation				Material				Ceramic				Applicable Toolholder Page
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Nodular cast iron (without scale)	Heat-resistant alloy	Hard materials	PVD	-	
Symbol	Specification	Example	Example	IC	S	D1	RE	A66N	KS6050			
S	Chamfered and R-Honed	S00625	0.006" × 25° Chamfered and R-Honed									D48~D51 F162 F164 F165
T	Chamfered	T00825	0.008" × 25° Chamfered									

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

INSERT GRADES A
TURNING INSERTS B
CBN/PCD INSERTS C
TURNING HOLDERS D
SMALL TOOLS E
BORING F
GROOVING G
CUT-OFF H
THREADING J
DRILLING K
MILLING M
QUICK CHANGE TOOLING N
SPARE PARTS P
TECHNICAL R
INDEX T

Round

How to read this page See page B15

Cutting Edge Preparation

Symbol	Specification	Example	
E	R-Honed	E001	R0.001" Honed
T	Chamfered	T00420	0.004" × 20° Chamfered

Gray cast iron (with scale)	●	K
Gray cast iron (without scale)		
Nodular cast iron (with scale)		
Nodular cast iron (without scale)		
Heat-resistant alloy	●	S
Hard materials		H

Insert	Part Number ANSI	Edge Prep (in)	Part Number ISO	Edge Prep (mm)	Dimensions (in)		Angle (°)		Ceramic KS6030	Applicable Toolholder Page
					IC	S	AN			
	RPG 32E001	E001	RPGN 090300E003	E003	3/8	1/8	11	●		
	RPG 32T00420	T00420	RPGN 090300T01020	T01020	3/8	1/8	11	●		
	RPG 43E001	E001	RPGN 120400E003	E003	1/2	3/16	11	●		
	RPG 43T00420	T00420	RPGN 120400T01020	T01020	1/2	3/16	11	●		

B TURNING INSERTS

POSITIVE



CERAMIC

Square

How to read this page See page B15

Cutting Edge Preparation				Gray cast iron (with scale)		Gray cast iron (without scale)		Nodular cast iron (with scale)		Nodular cast iron (without scale)		Heat-resistant alloy		Hard materials		
Symbol	Specification	Example														
S	Chamfered and R-Honed	S00320	0.003" × 20° Chamfered and R-Honed													
T	Chamfered	T00320	0.003" × 20° Chamfered													
Insert	Part Number ANSI	Edge Prep (in)	Part Number ISO	Edge Prep (mm)	No. of Edges	Dimensions (in)			Angle (°)	Ceramic		Applicable Toolholder Page				
						IC	S	RE		AN	PVD		-			
	SPG 322T00320AA	S00320	SPGN 090308S00820	S00820	4	3/8	1/8	1/32	11	●	-	F130				
	SPG 322T00320	T00320	SPGN 090308T00820	T00820	4	3/8	1/8	1/32	11	●	-					
	SPG 422T00320	T00620	SPGN 120308T00820	T00820	4	1/2	1/8	1/32	11	●	-					
	423T00320		120312T00820	T00820	4	1/2	1/8	3/64	11	●	-					

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
 Contact your local Kyocera sales engineer to upgrade old products to new technology

Inserts sold in 10 piece boxes

60° Triangle

How to read this page See page B15

Cutting Edge Preparation

Symbol	Specification	Example	
S	Chamfered and R-Honed	S00320	0.003" × 20° Chamfered and R-Honed
T	Chamfered	T00320	0.003" × 20° Chamfered

Gray cast iron (with scale)				K
Gray cast iron (without scale)				
Nodular cast iron (with scale)				
Nodular cast iron (without scale)				
Heat-resistant alloy				S
Hard materials				H

Insert	Part Number ANSI	Edge Prep (in)	Part Number ISO	Edge Prep (mm)	No. of Edges	Dimensions (in)			Angle (°)	Ceramic			Applicable Toolholder Page		
						IC	S	RE		AN	PVD	-		A65	
											A66N	PT600M			
	TBG 1211T00320AA	S00320	TBGN 060104S00820	S00820	3	5/32	1/16	1/64	5	●			-		
	1211S00320		060104S00820							1/64	●				
	1212T00320AA		060108S00820							1/32	●				
	1212S00320		060108S00820							1/32	●				
	TPG 18151T00320	T00320	TPGN 090204T00820	T00820	3	7/32	3/32	1/64	11	●				F131	
	18152T00320		090208T00820							1/32	●				
	TPG 2205T00320AA	S00320	TPGN 110302S00820	S00820	3	1/4	1/8	1/64	11	●					
	221T00320AA		110304S00820							1/64	●				
	221S00320		110304S00820							1/64	●				
	222T00320AA		110308S00820							1/32	●				
	222S00320	110308S00820	1/32	●											
	TPG 221T00320	T00320	TPGN 110304T00820	T00820	3	1/4	1/8	1/64	11	●	●	●			
	222T00320		110308T00820							1/32	●	●	●		
	TPG 321T00320AA	S00320	TPGN 160304S00820	S00820	3	3/8	1/8	1/64	11	●					
	321S00320		160304S00820							1/64	●				
	322T00320AA		160308S00820							1/32	●				
	322S00320		160308S00820							1/32	●				
	323T00320AA	160312S00820	3/64	●											
TPG 3205T00320	T00320	TPGN 160302T00820	T00820	3	3/8	1/8	1/64	11	●	●	●				
321T00320		160304T00820							1/64	●	●	●			
322T00320		160308T00820							1/32	●	●	●			

B TURNING INSERTS

POSITIVE



CERAMIC

Inserts for Roll Machining

How to read this page See page B15

Cutting Edge Preparation				Material Compatibility										Applicable Toolholder Page		
Symbol	Specification	Example		Gray cast iron (with scale)	Gray cast iron (without scale)	Nodular cast iron (with scale)	Nodular cast iron (without scale)	Heat-resistant alloy	Hard materials	Ceramic						
				IC	CW	INSL	D1	S	RE	A66N PT600M	A65	KS001	KS6030	KS6040	KSXV1	
E	R-Honed	E002	R0.002" Honed													K
K	Double Chamfered	K20003	2mm x 3° Chamfered													
P	Double Chamfered and R-Honed	P08015	0.080" x 15° Chamfered and R-Honed													
T	Chamfered	T00420	0.004" x 20° Chamfered													
																S
																H
Insert	Part Number ANSI	Edge Prep (in)	Part Number ISO	Edge Prep (mm)	Dimensions (in)						Ceramic					
					IC	CW	INSL	D1	S	RE	A66N PT600M	A65	KS001	KS6030	KS6040	
	LNU 6688T08015625A	P08015	LNUN 381232P20015	P20015	-	3/4	1-1/2	-	1/2	1/8						
	RCGX 24E002	E002	RCGX 060600E005	E005	1/4	-	-	-	1/4	-						
	RCGX 24T00220	T00220	RCGX 060600T00520	T00520	1/4	-	-	-	1/4	-						△
	RCGX 24T00420	T00420	RCGX 060600T01020	T01020	1/4	-	-	-	1/4	-						
	RCGX 102T04015*	T04015	RCGX 060400*	T10015	1/4	-	-	-	0.180	-						
	RCGX 102H315T04015	T04015	RCGX 060700	T10015	1/4	-	-	-	0.315	-						
	RCGX 35T00220	T00220	RCGX 090700T00520	T00520	3/8	-	-	-	0.315	-						
	RCGX 35T00420	T00420	RCGX 090700T01020	T01020	3/8	-	-	-	0.315	-						
	RCGX 103T08015625AA	P08015	RCGX 090700P20015	P20015	3/8	-	-	-	0.315	-						
	RCGX 45E001	E001	RCGX 120700E003	E003	1/2	-	-	-	0.315	-						
	RCGX 45T00220	T00220	RCGX 120700T00520	T00520	1/2	-	-	-	0.315	-						
	RCGX 45T00420	T00420	RCGX 120700T01020	T01020	1/2	-	-	-	0.315	-						
	RCGX 104T08015625AA	P08015	RCGX 120700P20015	P20015	1/2	-	-	-	0.315	-						
RCGX 106T08015625AA	P08015	RCGX 191000P20015	P20015	3/4	-	-	-	0.394	-							
	RPGX 24E001	E001	RPGX 060600E003	E003	1/4	-	-	-	1/4	-						
	RPGX 24T00420	T00420	RPGX 060600T01020	T01020	1/4	-	-	-	1/4	-						
	RPGX 35E001	E001	RPGX 090700E003	E003	3/8	-	-	-	0.315	-						
	RPGX 35T00420	T00420	RPGX 090700T01020	T01020	3/8	-	-	-	0.315	-						△
	RPGX 45E001	E001	RPGX 120700E003	E003	1/2	-	-	-	0.315	-						
	RCMA 66T08015625AA	P08015	RCMA 190900P20015	P20015	3/4	-	-	0.250	3/8	-						
	RCMA 88T08015625AA		RCMA 251200P20015	P20015	1	-	-	0.266	1/2	-						
	RCMA 106T08015625AA		RCMA 310900P20015	P20015	1-1/4	-	-	0.390	3/8	-						
	RCMA 1012T08015625AA		RCMA 311800P20015	P20015	1-1/4	-	-	0.390	3/4	-						

*IC may differ based on edge prep.

● : Standard Item △ : Phaseout Item (will be removed from next catalog)
Contact your local Kyocera sales engineer to upgrade old products to new technology

RBG Inserts sold in 1 piece boxes
Inserts sold in 10 piece boxes

INSERT GRADES	A
TURNING INSERTS	B
CBN/PCD INSERTS	C
TURNING HOLDERS	D
SMALL TOOLS	E
BORING	F
GROOVING	G
CUT-OFF	H
THREADING	J
DRILLING	K
MILLING	M
QUICK CHANGE TOOLING	N
SPARE PARTS	P
TECHNICAL	R
INDEX	T

