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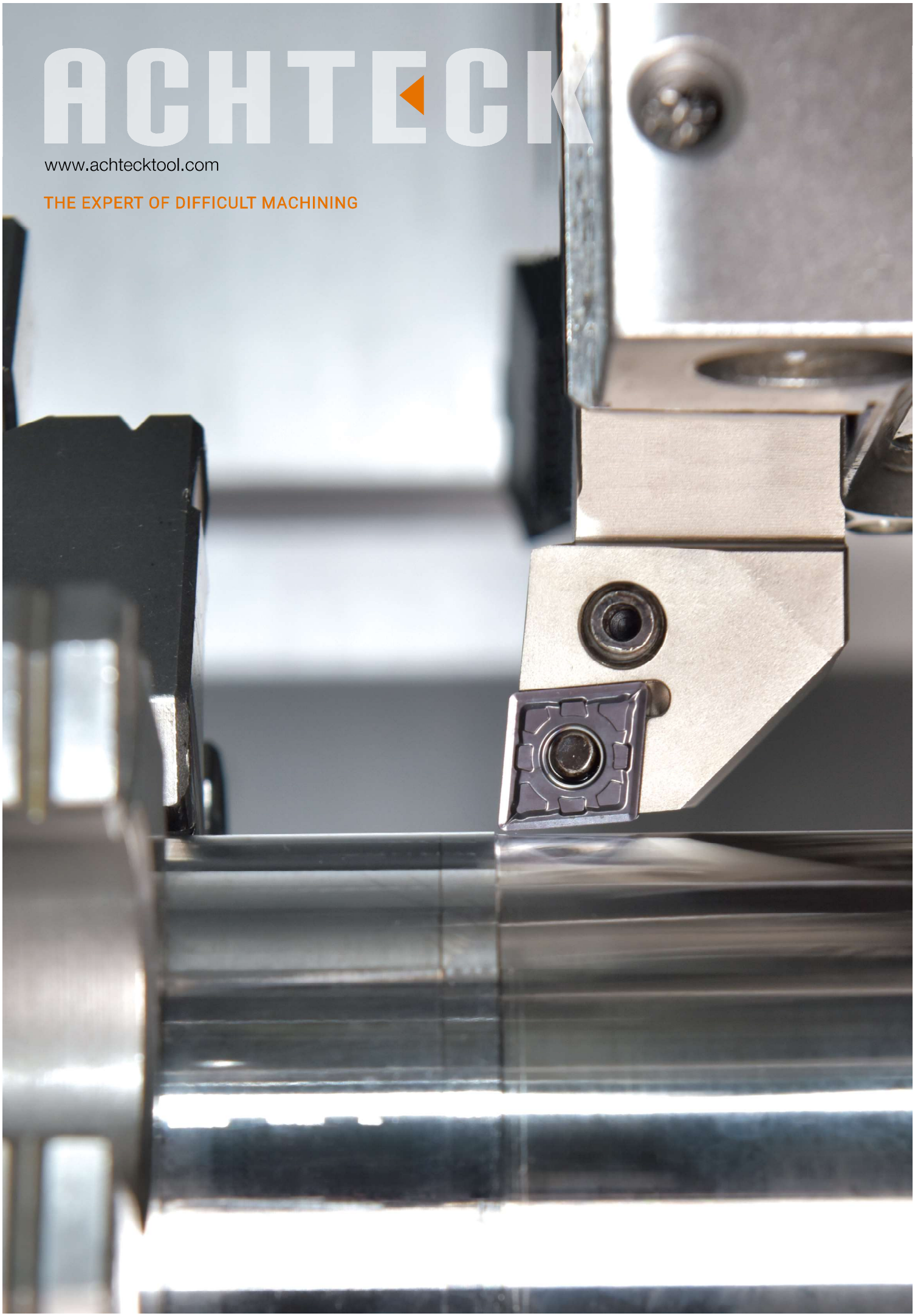


CUTTING TOOL CATALOGUE

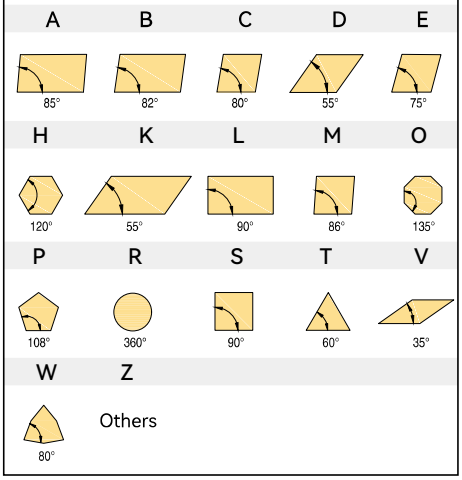
ISO Turning Inserts 22

ISO Turning Insert Denomination System 24
Overview of Turning Grades 27
Overview of Turning Insert Geometries 28
Turning Grade Description 44
Turning Cutting Parameter Recommended Table 46
Negative 80° C Shape Insert 54
Negative 55° D Shape Insert 58
Negative 90° S Shape Insert 62
Negative 60° T Shape Insert 66
Negative 35° V Shape Insert 片 70
Negative 80° W Shape Insert 72
Negative 90° L Shape Insert 75
Train Wheel Reconditioning Insert 75
Positive 80° C Shape Insert 76
Positive 55° D Shape Insert 81
Positive 90° S Shape Insert 84
Positive 60° T Shape Insert 85
Positive 35° V Shape Insert 90
Positive 80° W Shape Insert 95
Round R Insert 96

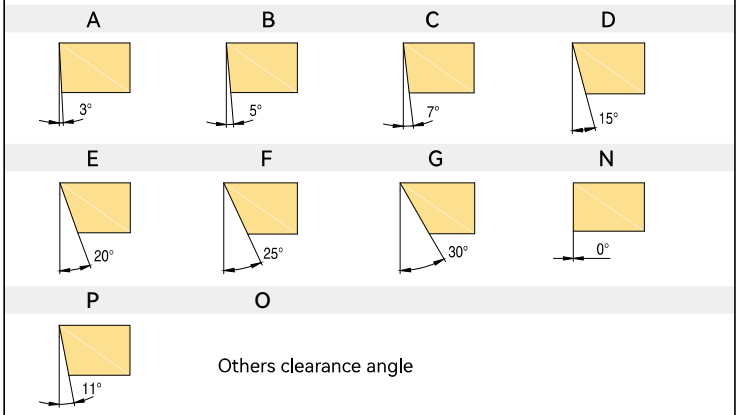
ISO Turning Insert Denomination System

C	N	M	G
1	2	3	4

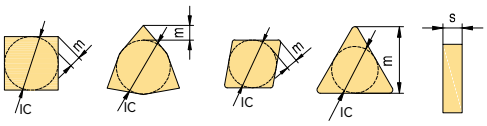
1- Shape/Code



2- Clearance Angle



3- Tolerance



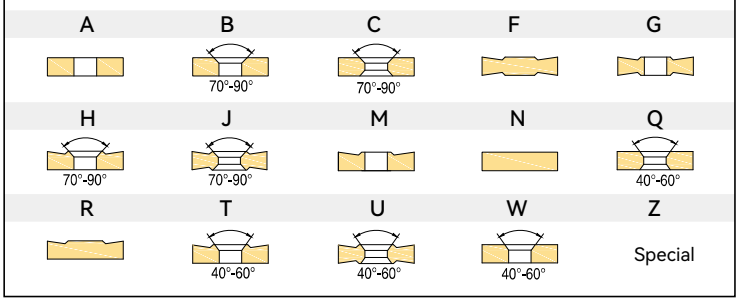
Class	Unit	In.Circle dimension IC	Nose height m	Thickness s
A	mm	± 0,025	± 0,005	± 0,025
C	mm	± 0,025	± 0,013	± 0,025
E	mm	± 0,025	± 0,025	± 0,025
F	mm	± 0,013	± 0,005	± 0,025
G	mm	± 0,025	± 0,025	± 0,130
H	mm	± 0,013	± 0,013	± 0,025
J	mm	*	± 0,005	± 0,025
K	mm	*	± 0,013	± 0,025
L	mm	*	± 0,025	± 0,025
M	mm	*	*	± 0,127
U	mm	*	*	± 0,127
N	mm	*	*	± 0,025

* For details refer to right and below tables

Shape: C, E, H, M, O, P, S, T, R, W				
IC	IC		m	
	J,K,L,M,N	U	M, N	U
4.76	± 0,05	± 0,08	± 0,08	± 0,13
5.56	± 0,05	± 0,08	± 0,08	± 0,13
6.00	± 0,05	± 0,08	± 0,08	± 0,13
6.35	± 0,05	± 0,08	± 0,08	± 0,13
7.94	± 0,05	± 0,08	± 0,08	± 0,13
8.00	± 0,05	± 0,08	± 0,08	± 0,13
9.525	± 0,05	± 0,08	± 0,08	± 0,13
10.00	± 0,05	± 0,08	± 0,08	± 0,13
12.00	± 0,08	± 0,13	± 0,13	± 0,20
12.70	± 0,08	± 0,13	± 0,13	± 0,20
15.875	± 0,10	± 0,18	± 0,15	± 0,27
16.00	± 0,10	± 0,18	± 0,15	± 0,27
19.05	± 0,10	± 0,18	± 0,15	± 0,27
20.00	± 0,10	± 0,18	± 0,15	± 0,27
25.00	± 0,13	± 0,25	± 0,18	± 0,38
25.40	± 0,13	± 0,25	± 0,18	± 0,38
31.75	± 0,15	± 0,25	± 0,20	± 0,38
32.00	± 0,15	± 0,25	± 0,20	± 0,38

M&N class	D shape		V shape	
IC	ic	m	ic	m
5.56	± 0,05	± 0,11		
6.35	± 0,05	± 0,11	± 0,05	± 0,16
7.94	± 0,05	± 0,11	± 0,05	± 0,16
9.525	± 0,05	± 0,11	± 0,05	± 0,16
12.70	± 0,08	± 0,15	± 0,08	± 0,20
15.875	± 0,10	± 0,18	± 0,10	± 0,27
19.05	± 0,10	± 0,18	± 0,10	± 0,27

4- Type of Insert

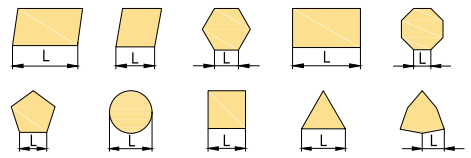


12				04			
5				6			

08	E	-	KC4
7	8	-	9

5- Cutting Edge Length

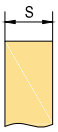
In.Circle Dimension (mm)	Insert shape C	D	R	S	T	V	W	K
3.97					06		02	
5.00			05					
5.56					09			
6.00		06						
6.35	06	07			11	11	04	
8.00			08					
9.525	09	11	09	09	16	16	06	16
10.00			10					
12.00			12					
12.70	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.00			16					
19.05	19		19	19	33			
20.00			20					
25.00			25					
25.40	25		25	25				
31.75			31					
32.00			32					



6- Thickness

Round down plus zero or T

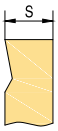
A, B, C, N, O, W



Example:

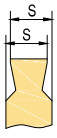
01 = 1.59
T1 = 1.98
02 = 2.38

H, M, R, T



03 = 3.18
T3 = 3.97
04 = 4.76
05 = 5.56
06 = 6.35
07 = 7.94

F, G, J, U



09 = 9.525
11 = 11.11
12 = 12.70
14 = 14.29
15 = 15.88

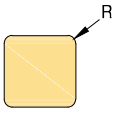
7- Nose Radius

Corner radius

Example:

M0 = Round insert (metric)

00 = Sharp	20 = 2.00
003 = 0.03	24 = 2.40
005 = 0.05	28 = 2.80
01 = 0.10	32 = 3.20
02 = 0.20	40 = 4.00
04 = 0.40	48 = 4.80
08 = 0.80	56 = 5.60
12 = 1.20	64 = 6.40
16 = 1.60	X = Others



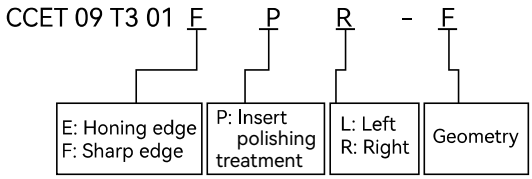
8- Edge Preparation

Code	Edge shape	Description
F		Sharp cutting edge
E		Honed cutting edge
T		T-land
S		T-land+Honed cutting edge

9- Chip Breaker Description

Refer to page: P28-43

Ground Positive Insert Example



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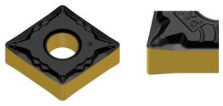
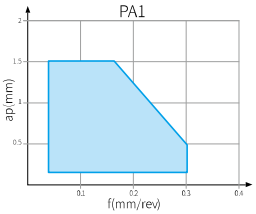
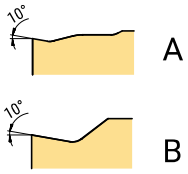
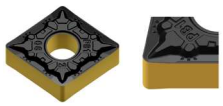
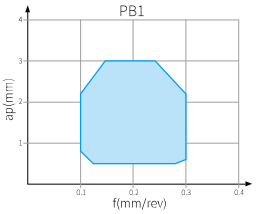
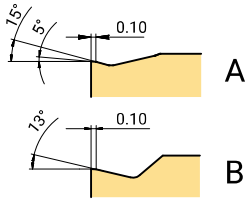
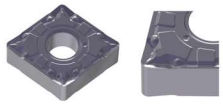
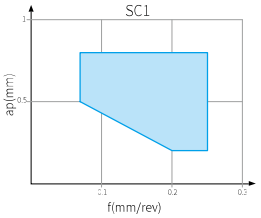
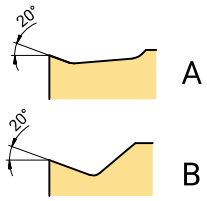
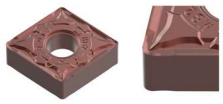
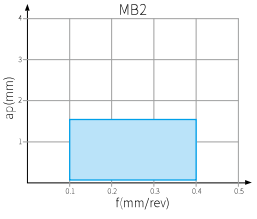
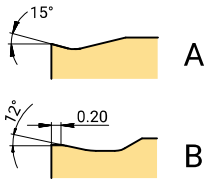
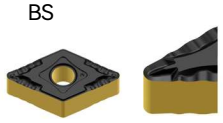
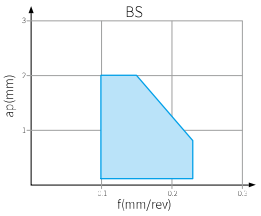
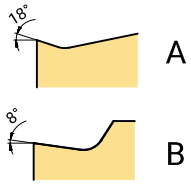
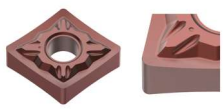
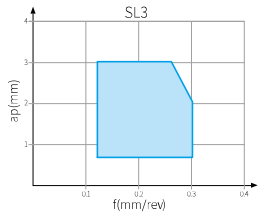
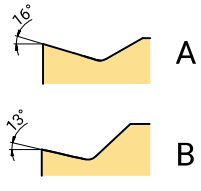
Turning Inserts

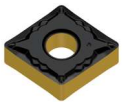
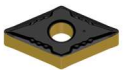
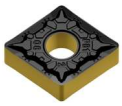
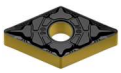
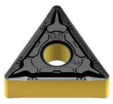
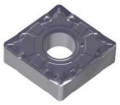
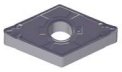
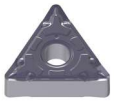
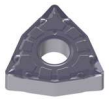
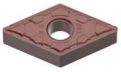
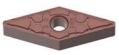
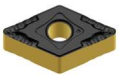
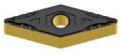
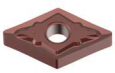
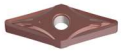
Turning and Grooving Grade Application Guide

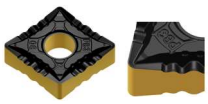
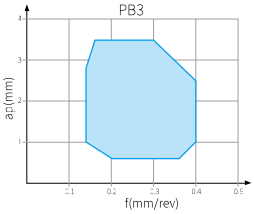
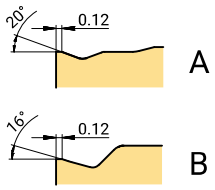
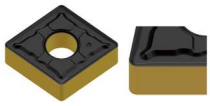
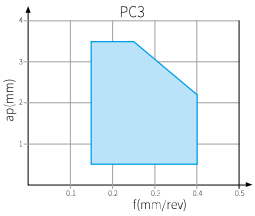
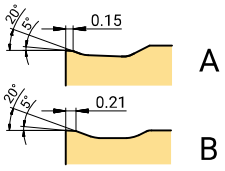
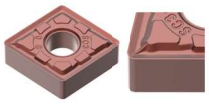
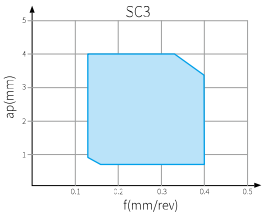
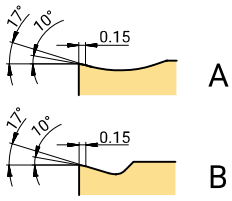
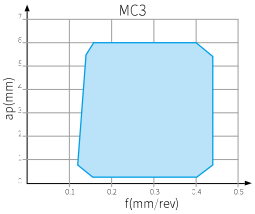
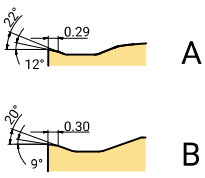
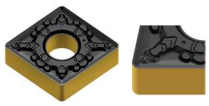
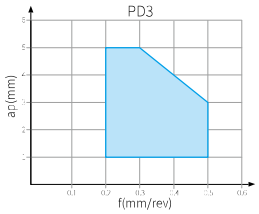
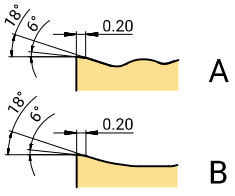
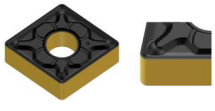
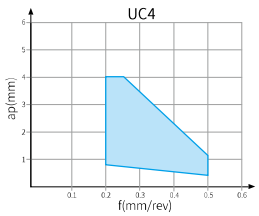
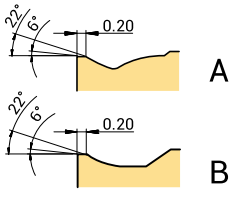
Material Group		ISO	Turning															Grooving/Parting off						ISO
			Coated									Cermet		Uncoated	PCBN			PCD			Coated			Uncoated	
			CVD						PVD												CVD	PVD			
P	Non-alloy steels/ Alloyed steels	P01	AC052P																						P01
		P10		AC152P		AC252P					AP200U	AT202	AT210A								AC230P	AP301U			P10
		P20					AC200M																AP330M		P20
		P30				AC350P																			P30
		P40																							P40
		P50																							P50
M	Stainless steels	M01	AC100M						AP010S													AP130S			M01
		M10		AC200M						AP200U	AP301M										AP301U				M10
		M20																					AP330M		M20
		M30																							M30
		M40															PB90								M40
K	Cast iron	K01	AC100K																						K01
		K10		AC102K		AC202K						AT202	AT210A												K10
		K20																							K20
		K30																							K30
		K40																							K40
		K50																							K50
N	Aluminum/ Aluminum alloys	N01												AW100K					PD20					AW100K	N01
		N10																							N10
		N20																							N20
		N30																							N30
S	Heat resistant alloys	S01	AC100M						AP010S																S01
		S10		AC200M						AP100S												AP130S			S10
		S20									AP301M														S20
		S30																							S30
		S40																							S40
H	Hardened steels/ Chilled cast iron	H01													PB30										H01
		H10														PB60									H10
		H20																							H20
		H30																							H30

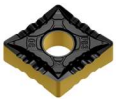
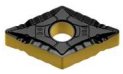
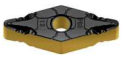
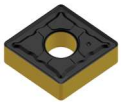
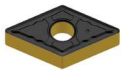
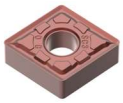
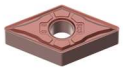
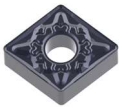
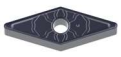
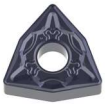
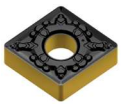
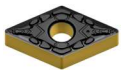
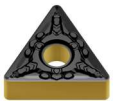
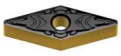
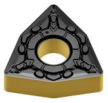
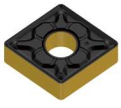
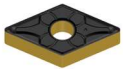
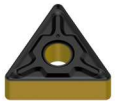
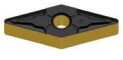
Overview of Turning Insert Geometries

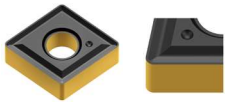
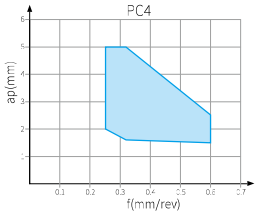
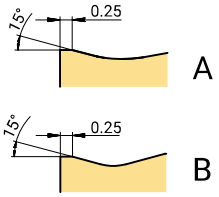
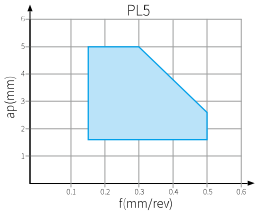
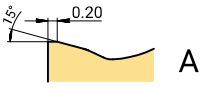
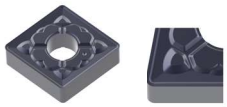
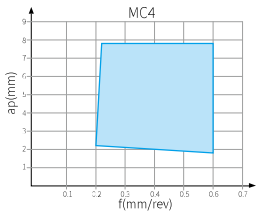
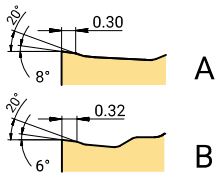
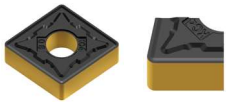
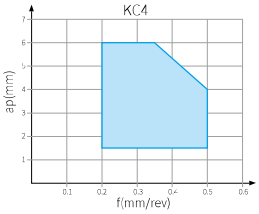
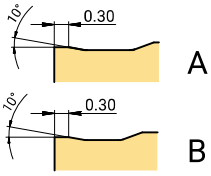
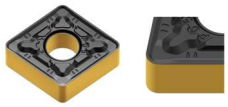
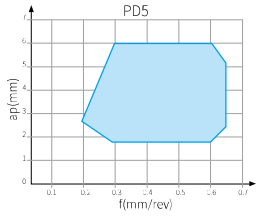
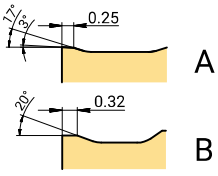
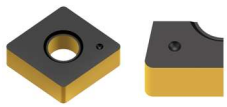
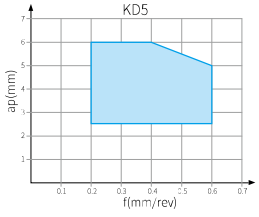
Negative Inserts

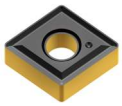
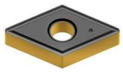
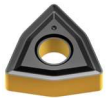
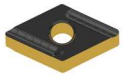
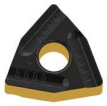
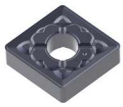
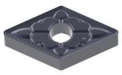
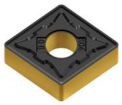
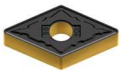
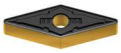
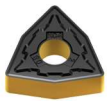
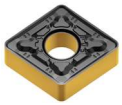
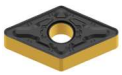
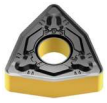
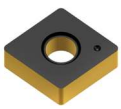
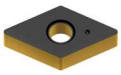
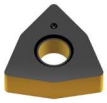
Application	Chip breaker	Features	Chip breaking range	Cross section geometry
Finishing	PA1 	**Steel finishing machining chip breaker** Chip breaker structure design to break chips at varied depths of cut, featuring good sharpness and smooth edge inclination design, which can effectively improve the chip flow and reduce cutting force.		
	PB1 	**1st choice for steel finish to semi-finishing turning** Light cutting chip breaker, low cutting force, suitable for slender shaft, thin walled and poorly clamped parts. Overall good cutting performance.		
	SC1 	**1st choice for heat resistant alloy finish turning** Excellent performance at low depth of cut.		
	MB2 	**1st choice for stainless steel finish turning** High positive rake angle reduced cutting force and built-up edge, can obtain much better surface quality. Very good chip breaking at low feed and cutting depth.		
Profiling	BS 	**Recommended for profile turning** Suitable for profiling with changing depth of cut. Smooth chip evacuation		
Light cutting	SL3 	**Recommended for heat resistant alloy light turning.** Suitable for heat resistant alloy, Ti-alloy. Sharp and wavy cutting edge can get good surface finish and good chip breaking results.		

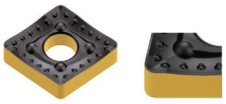
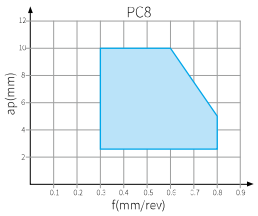
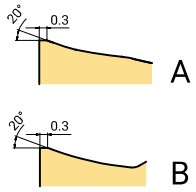
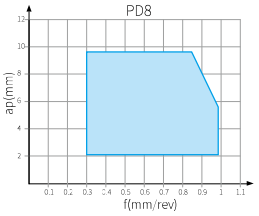
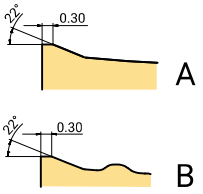
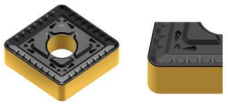
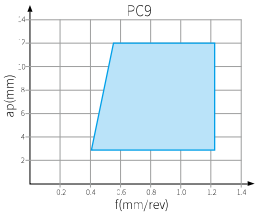
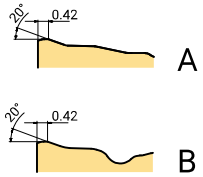
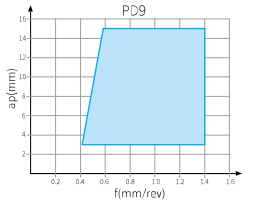
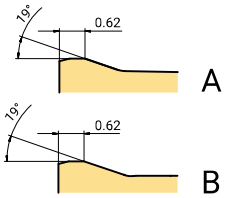
	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CNMG-PA1  P54	DNMG-PA1  P58		TNMG-PA1  P66	VNMG-PA1  P70	WNMG-PA1  P72	
	CNMG-PB1  P54	DNMG-PB1  P58	SNMG-PB1  P62	TNMG-PB1  P66	VNMG-PB1  P70	WNMG-PB1  P72	
	CNMG-SC1  P54	DNMG-SC1  P58		TNMG-SC1  P66	VNMG-SC1  P70	WNMG-SC1  P72	
	CNMG-MB2  P54	DNMG-MB2  P58	SNMG-MB2  P62	TNMG-MB2  P66	VNMG-MB2  P70	WNMG-MB2  P72	
		DNMG-BS  P58			VNMG-BS  P70		
	CNMG-SL3  P54	DNMG-SL3  P58	SNMG-SL3  P62	TNMG-SL3  P66	VNMG-SL3  P70	WNMG-SL3  P73	

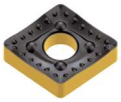
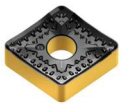
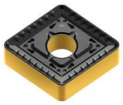
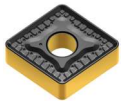
Application	Chip breaker	Features	Chip breaking range	Cross section geometry A/B	
Semi-finishing	PB3 	**1st choice for steel semi finish turning** The positive rake angle combined with small land guaranteed edge strength and sharpness, reduced the cutting force. The wavy side edge design has a good chip breaking result in small leading angle turning on the shoulder, and in profile turning at different cutting depths.			
	PC3 	**Alternative chipbreaker for steel semi-finish turning** Unique geometry design offers wider chip breaking range. Double rake angle makes the cutting smoothly. Enhanced insert tip reduced crater wear.			
	SC3 	**1st choice for heat resistant alloy medium turning** Used in heat resistant alloy and titanium alloy medium turning. Large rake angle + small land width design, easy cutting, is also suitable for soft steel turning.			
	MC3 	**1st choice for stainless steel medium turning** Sharp cutting edge, low cutting force, wide chip breaking range and good chip removal ability.			
Medium	PD3 	**1st choice for steel medium turning** It has a strong chip control ability at low feed and cutting depth, and reduces crater wear. The chip breaking is also very good at high feed and cutting depth due to the geometry design. Double rake angle design makes sharp cutting edge and reduces cutting force.			
	UC4 	**1st choice for carbon steel & alloyed steel (medium-cutting conditions)** **Alternative chip breaker for cast iron finishing & light-duty machining** Wide applicability across P, M, K-class workpiece materials for general-purpose medium-duty machining. Positive land angle geometry for reduced cutting forces and enhanced process stability. Features an optimized edge preparation technique to balance cutting-edge sharpness and strength.			

	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CNMG-PB3  P54	DNMG-PB3  P59		TNMG-PB3  P67	VNMG PB3  P70	WNMG-PB3  P73	
	CNMG-PC3  P54	DNMG-PC3  P59	SNMG-PC3  P62	TNMG-PC3  P67	VNMG-PC3  P70	WNMG-PC3  P73	
	CNMG-SC3  P55	DNMG-SC3  P59	SNMG-SC3  P62	TNMG-SC3  P67	VNMG-SC3  P70	WNMG-SC3  P73	
	CNMG-MC3  P55	DNMG-MC3  P59	SNMG-MC3  P62	TNMG-MC3  P67	VNMG-MC3  P70	WNMG-MC3  P73	
	CNMG-PD3  P55	DNMG-PD3  P60	SNMG-PD3  P63	TNMG-PD3  P67	VNMG-PD3  P71	WNMG-PD3  P73	
	CNMG-UC4  P55	DNMG-UC4  P60	SNMG-UC4  P62	TNMG-UC4  P67	VNMG-UC4  P71	WNMG-UC4  P73	

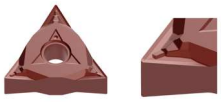
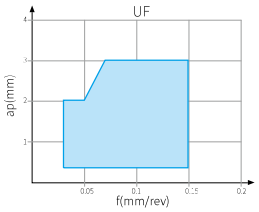
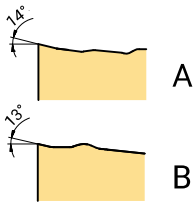
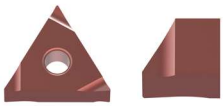
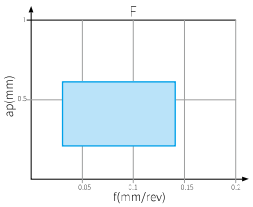
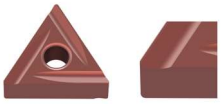
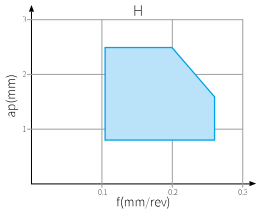
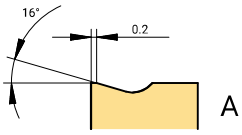
Application	Chip breaker	Features	Chip breaking range	Cross section geometry A/B
Medium	PC4 	**1st choice for cast iron medium turning Alternative chipbreaker for carbon steel and alloy steel medium turning** Flat T-land guarantee the strength of cutting edge. This multi-purpose geometry can be used in universal applications.		
	PL5 	**1st choice for steel slender bar turning** Open chip breaker leads to smooth cutting with low cutting force, which is suitable for slender shaft turning.		
Roughing	MC4 	**Alternative chipbreaker for stainless steel and heat resistant alloy rough turning** Large chip breaker design, smooth chip evacuation, good chip breaking, with high metal removal rate.		
	KC4 	**1st choice for cast iron turning** It has strong cutting edge, reliable and stable performance.		
	PD5 	**Alternative chipbreaker for steel rough turning** A strong cutting edge. Double rake angle design effectively reduces the cutting force, can still have good chip breaking at small cutting depth.		
	KD5 	**1st choice for cast iron rough turning** High cutting edge strength, suitable for interrupt cutting and unstable cutting.		

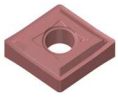
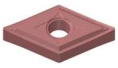
	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CNMG-PC4  P55	DNMG-PC4  P60	SNMG-PC4  P63	TNMG-PC4  P67	VNMG-PC4  P71	WNMG-PC4  P74	
		DNMG-PL5  P60		TNMG-PL5  P67		WNMG-PL5  P74	
	CNMG-MC4  P56	DNMG-MC4  P61	SNMG-MC4  P63	TNMG-MC4  P68		WNMG-MC4  P74	
	CNMG-KC4  P56	DNMG-KC4  P61	SNMG-KC4  P64	TNMG-KC4  P68	VNMG-KC4  P71	WNMG-KC4  P74	
	CNMG-PD5  P56	DNMG-PD5  P61	SNMG-PD5  P64	TNMG-PD5  P68		WNMG-PD5  P74	
	CNMA-KD5  P57	DNMA-KD5  P61	SNMA-KD5  P64	TNMA-KD5  P68		WNMA-KD5  P74	

Application	Chip breaker	Features	Chip breaking range	Cross section geometry	
Heavy roughing	PC8 	**Light cutting geometry for heavy turning** Positive rake angle and curved cutting edge design, low cutting force.			
	PD8 	**Heavy turning geometry for soft steel and stainless steel** The geometry design ensures low cutting force. Suitable for low power machine tools. Applied in steel, stainless steel and cast iron heavy turning.			
	PC9 	**1st choice for steel heavy rough turning** Wavy geometry is good for chip breaking. The geometry has a big space for chips, which is suitable for high metal removal rate.			
	PD9 	**Alternative chipbreaker for steel heavy rough turning** High edge strength is suitable for large cutting depth and high feed turning. High machining reliability.			

	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CNMM-PC8  P57						
	CNMM-PD8  P57		SNMM-PD8  P65	TNMM-PD8  P69			
	CNMM-PC9  P57		SNMM-PC9  P65				
	CNMM-PD9  P57		SNMM-PD9  P65				

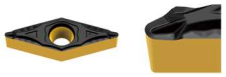
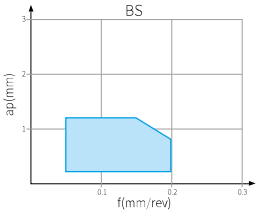
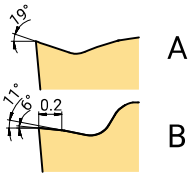
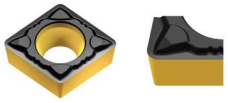
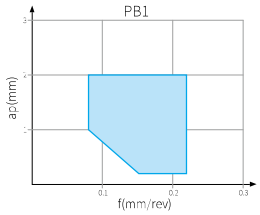
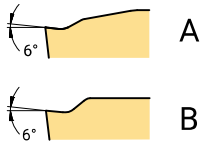
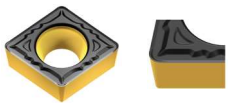
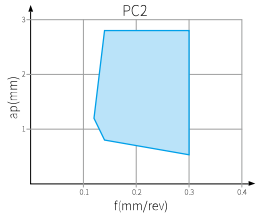
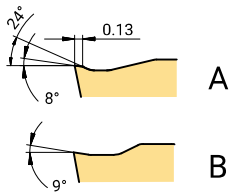
Negative Ground Insert

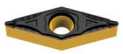
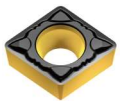
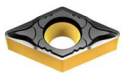
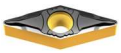
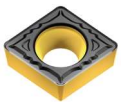
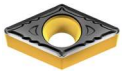
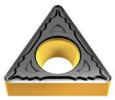
Application	Chip breaker	Features	Chip breaking range	Cross section geometry	
Finishing	UF 	**Suitable for precision turning** Low cutting forces, good chip breaking, suitable for finish turning.			
	F 	**Finish turning** Low cutting force, good chip control. The sharp edge produces a good surface finish.			
Semi-finishing-Rough machining	H 	**Light turning** Excellent chip control at low to medium feed rates. Strong edge strength.			

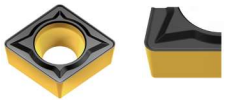
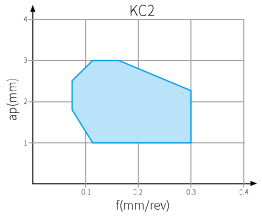
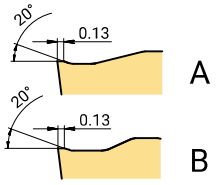
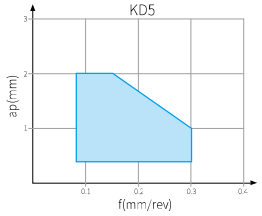
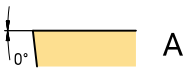
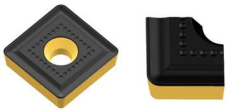
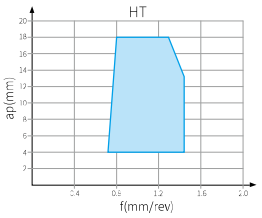
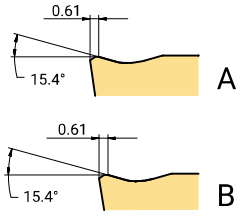
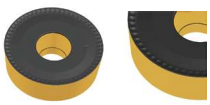
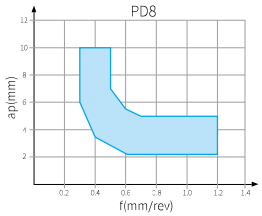
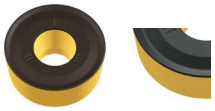
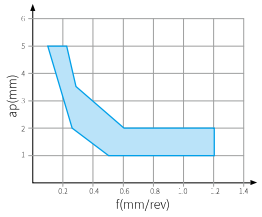
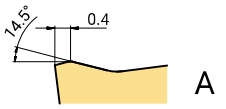
	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CNGG-UF  P54	DNGG-UF  P58		TNGG-UF  P66	VNGG-UF  P70		
				TNGG-F  P69			
				TNGG-H  P69			

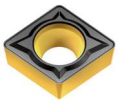
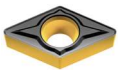
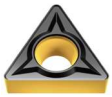
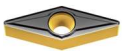
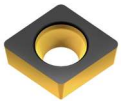
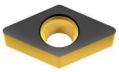
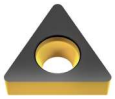
Overview of Turing Insert Geometry

Positive Pressed Insert

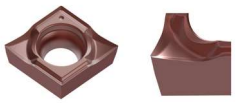
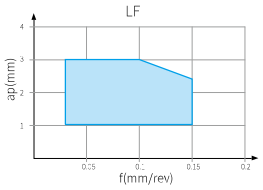
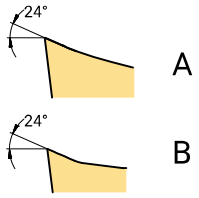
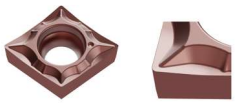
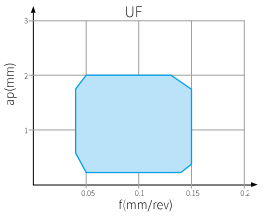
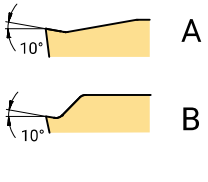
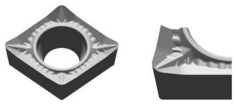
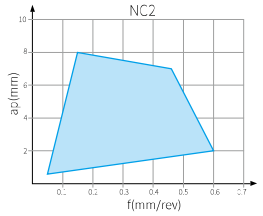
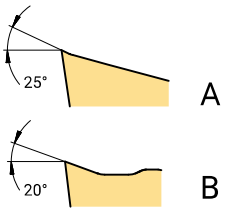
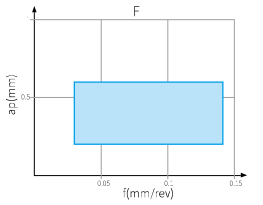
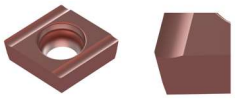
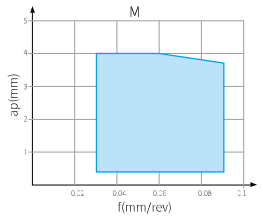
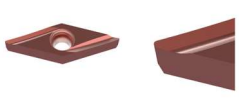
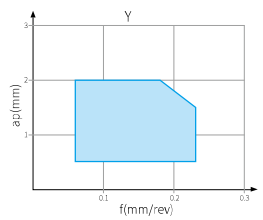
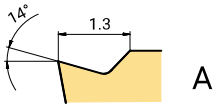
Application	Chip breaker	Features	Chip breaking range	Cross section geometry A/ B	
Profiling	BS 	**Finish turning** Profile turning or turning with changing depth of cut, smooth chip evacuation.			
Finishing	PB1 	**1st choice for steel finish turning** Positive rake angle reduces cutting force and built-up edge, and obtains better surface finish and longer tool life. Also can be used in stainless steel turning.			
Semi-finishing	PC2 	**1st choice for steel and stainless steel semi-finish turning** Sharp geometry design ensures low cutting force, less built-up edge and excellent chip control.			

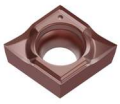
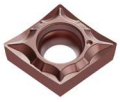
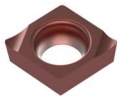
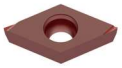
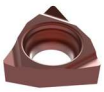
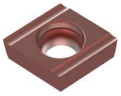
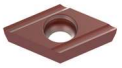
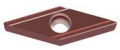
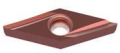
	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
					VBMT-BS  P90		
	CCMT-PB1 CPMT-PB1  P77、80	DCMT-PB1  P82	SCMT-PB1  P84	TCMT-PB1 TPMT-PB1  P86、88	VBMT-PB1 VCMT-PB1  P90、93		
	CCMT-PC2 CPMT-PC2  P77、80	DCMT-PC2  P82	SCMT-PC2  P84	TCMT-PC2 TPMT-PC2  P86、88	VBMT-PC2 VCMT-PC2  P91、93		

Application	Chip breaker	Features	Chip breaking range	Cross section geometry	
Medium	KC2 	**General purpose geometry for steel, stainless steel and cast iron turning** Suitable for medium and rough turning. Simple and durable chip breaker design, very good versatility and wide application range.			
Roughing	KD5 	**Geometry for cast iron rough turning** Suitable for unstable machining due to its strong cutting edge. Reduced chipping.			
	HT 	**Geometry for steel turning with large cutting depth** Open chip breaker is suitable for large cutting depth with smooth chip evacuation. Good cost efficiency.			
Semi-finishing	PD8 	**Geometry for carbon steel and alloy steel semi-finishing turning** A wide chipbreaker avoid chip jam at large cutting depth. Chip control can be also good at small cutting depth.			
Medium	No code 	**Alternative chipbreaker for cast iron and alloy steel medium turning** Negative land and large rake angle design ensure cutting edge strength and sharpness.			

	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CCMT-KC2  P78	DCMT-KC2  P82	SCMT-KC2  P84	TCMT-KC2  P87	VBMT-KC2  P91		
	CCMW-KD5  P78	DCMW-KD5  P82	SCMW-KD5  P84	TCMW-KD5  P87			
			SCMT-HT  P84				
							RCMX-PD8  P96
							RCMX  P96

正型磨制 Inserts

Application	Chip breaker	Features	Chip breaking range	Cross section geometry
Finishing	LF 	**Finish turning** Sharp cutting edge, low cutting force, suitable for Swiss-type automatic lathe with 2 direction machining.		
	UF 	**1st choice for heat resistant alloy turning** Peripheral ground finish turning inserts. High repeatibility on insert positioning. Sharp cutting edge can achieve good machining tolerance.		
Semi-finishing	NC2 	**Choice for aluminium alloy turning** Very positive rake angle is designed for non-ferrous metal finish and semi-finish turning. It reduces the cutting force and make smooth chip evacuation. The polished rake surface, with reduced friction and built-up edge.		
Finishing	F 	**Choice for finish turning** Excellent chip control at low feed rate. Very low cutting force.		
Low feed	M 	**Suitable for medium turning in automatic lathes** Excellent chip control at low to medium feed rate. Reliable machining. large rake angle avoid work hardening.		
Semi-finishing	Y 	**Choice for semi-finish to rough turning in automatic lathe** The strong edge can be used in rough turning. Good chip control for low to medium feed rate		

	80° Rhombus	55° Rhombus	90° Square	60° Triangle	35° Rhombus	80° Trigon	Round
	CCGT-LF  P76	DCGT-LF  P81		TCGT-LF  P85	VBGT-LF VCGT-LF VPGT-LF  P90、93、94		
	CCGT-UF  P76	DCGT-UF  P81		TCGT-UF  P85、86	VBGT-UF VCGT-UF VPGT-UF  P90、93、94		
	CCGT-NC2  P76	DCGT-NC2  P81	SCGT-NC2  P84	TCGT-NC2  P86	VCGT-NC2 VPGT-NC2  P93、94		RCGT-NC2  P96
	CCET-F  P78	DCET-F  P82、83		TBET-F TCET-F TPEH-F  P85、87、89	VBET-F VCET-F VPET-F  P91、93、94	WBET-F  P95	
	CCET-M  P79	DCET-M  P83		TCET-M  P87	VBET-M VPET-M  P92、94		
					VBET-Y  P92		

Turning Grade Description

Basic Grades for Turning

P Steel, cast steel, ferrite/martensite stainless steel and malleable cast iron

Basic grade

AC052P P05(P01-P15)

CVD coated grade, has good crater resistance and chipping resistance, which is recommanded for high productivity medium and rough turning in stable condition, can keep edge reliability in dry or wet machining with high temperature.

AC152P P15(P05-P25)

CVD coated grade, can be used in finish to rough turning on steel and cast steel, and is recommanded in continuous and light interrupted cutting where it can keep high metal removal rate.

AC252P P25(P15-P35)

CVD coated grade, 1st choice for steel turning, used in finish to rough turning on steel and cast steel. It's recommanded for continuous and interrupted machining.

AC350P P35(P30-P45)

CVD coated grade, can be used in rough turning on steel and cast steel under poor conditions. Reliable cutting edge made this grade good for interrupted machining with high metal removal rate.

AT210A P15(P10-P20)

Coated cermet grade, the combination of ultra-fine crystalline hard phase and composite bonding phase to realize the balance of wear resistance and chipping resistance; suitable for continuous medium to fine turning processing of steel materials, and offer high-quality machining surface.

AT202 P15(P10-P20)

Uncoated cermet grade. It has excellent built-up edge resistance and chipping resistance which can be used in finish turning with good surface quality or low cutting force requests.

Supplemental grade

AP200U P25(P15-P35)

PVD coated grade, recommanded for finish turning on low carbon steel with low cutting speed or low feed.

M Austenitic stainless steel, cast steel, manganese steel, alloyed cast iron, malleable cast iron and free cutting iron

Basic grade

AC100M M15(M05-M20)

CVD coated grade. It's recommanded for finish machining and light rough machining. It's suitable for machining at medium to high cutting speed due to its heat resistance feature of wear resistant coating.

AC200M M25(M15-M30)

CVD coated grade, optimised for semi-finish to rough turning, can be used in interrupted machining in which it can keep edge reliability due to good thermal shock stability and mechanical shock resistance.

AP301M M25(M15-M35)

PVD coated grade. Mainly used in machining steel and stainless steel small parts. It has excellent built-up edge resistance, good machining stability, can obtain good surface quality, and achieve longer tool life.

Supplemental grade

AP010S (M01-M15)

PVD coated grade, recommanded for finish turning due to its high hardness and resistance to plastic deformation.

AP200U M25(M15-M35)

PVD coated grade, used in complementary stainless steel applications at low to medium cutting speeds and also in interrupted turning due to excellent thermal stability, outstanding performance in machining when sharp edge and edge toughness or good surface quality are requeste

K Cast iron, chilled cast iron and short chip malleable cast iron

Basic grade

AC100K K05(K01-K15)

CVD coated grade, has thick and smooth wear resistant coating and very hard substrate, recommanded for grey cast iron high speed turning.

AC102K K10(K05-K20)

CVD coated grade, has thick and smooth wear resistant coating and hard substrate, recommanded for nodular cast iron high speed turning.

AC202K K15(K10-K30)

1st choice for cast iron turning. It can deal with interrupted cutting due to its high wear-resitant CVD coating, used in finish to rough turning on cast iron at low to medium cutting speed.

Supplemental grade

PB90 K10(K01-K20)

CBN grade. Suitable for grey cast iron and chilled cast iron interrupted finish turning due to its good edge strength and wear resistance.

AT210A K15(K10-K20)

Coated cermet grade. The combination of ultra-fine crystalline hard phase and composite bonding phase to provide a balance of abrasion resistance and chipping resistance; suitable for continuous and medium turning of cast iron materials; offer high-quality machining surfaces.

AT202 K15(K10-K20)

Uncoated cermet grade. It has excellent built-up edge resistance and good plastic deformation resistance. It can be used in nodular cast iron finish turning when surface quality, small tolerance or low cutting force are requested.

N Non-ferrous metals

Basic grade

AW100K N15(N05-N25)

Uncoated grade. It has both excellent wear resistance and sharp edge. Used in Al alloy rough to finish machining.

PD20 N10 (N01-N20)

PCD grade, used in non-ferrous material and non-metal material machining which can have longer tool life, completely clean cutting and good surface quality.

S Heat resistant alloys

Basic grade

AP010S S05(S01-S15)

With extremely high hardness, structural and chemical stability, it can not only meet the needs of high cutting speed finishing stable working conditions, but also suitable for high toughness of medium or semi-finishing and other general working conditions.

AP100S S10(S05-S20)

1st choice for heat resistant alloy. PVD coated grade has high hardness and plastic deformation resistance, can keep high performance and good wear resistance.

AP301M S25(S15-S35)

PVD coated grade. Used in low cutting speed or light interrupted cutting. Suitable for semi-roughing or continuous machining for a short time due to its good notch wear resistance and anti-heat shock capability.

Supplemental grade

AC100M S15(S05-S20)

CVD coated grade, suitable for heat resistant alloy continuous high speed machining .

AC200M S25(S15-S35)

CVD coated grade, suitable for heat resistant alloy general machining.

H Hardened materials

Basic grade

PB30 H10(H05-H15)

CBN grade with low CBN content, is used in hardened steel continuous machining at high speed and light interrupted machining.

PB60 H15(H10-H25)

1st choice of CBN grade medium CBN content for hardened steel interrupted machining and continuous machining at medium speed.

Cutting Data Recommendation--Negative Insert

Materials												
ISO	Workpiece Materials			Brinell Hardness (HB)	Tensile strength (N/mm^2)	AT202 f (mm/rev)			AT210A f (mm/rev)			
						0.10	0.30	0.50	0.10	0.30	0.50	
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	200	100	70	310	200	160	
		0.25 < C ≤ 0.55%	Annealed	190	639	200	100	70	310	200	160	
		0.25 < C ≤ 0.55%	Heat-treated	210	708	200	80	50	310	180	140	
		C > 0.55%	Annealed	190	639	200	80	50	310	180	140	
		C > 0.55%	Heat-treated	300	1013	200	80	50	310	180	140	
		Free cutting steel(short chip)	Annealed	220	745	200	80	50	310	180	140	
	Low-alloyed steel	Annealed		175	591	180	80	50	290	180	140	
		Heat-treated		300	1013	180	80	50	290	180	140	
		Heat-treated		380	1282	180	80	50	290	180	140	
		Heat-treated		430	1477	180	80	50	290	180	140	
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	160	80	50	270	180	140	
		Hardened and tempered		300	1013	160	80	50	270	180	140	
		Hardened and tempered		400	1361	150	80	50	270	180	140	
	Stainless steel	Ferritic/Martensite, Annealed		200	675							
		Martensite, Heat-treated		330	1114							
M	Stainless steel	Austenitic,hardened		200	675							
		Austenitic,precipitation hardened stainless steel(PH stainless steel)		300	1013							
		Austenitic, ferritic, duplex		230	778							
K	Malleable cast iron	Ferritic		200	400							
		Pearlitic		260	700							
	Grey cast iron	Low tensile strength		180	200							
		High tensile strength/Austenitic		245	350							
	Nodular cast iron	Ferritic		155	400							
		Pearlitic		265	700							
	GGV(CGI)			230	400							
N	Wrought aluminum alloy	Non-aging alloy		30	-							
		Aged alloy		100	340							
	Cast aluminum alloy	≤ 12% Si, non-aging alloy		75	260							
		≤ 12% Si, aged alloy		90	310							
		> 12% Si, non-aging alloy		130	450							
	Magnesium alloy			70	250							
	Copper and copper alloy (bronze/brass)	Unalloyed, electrolytic copper		100	340							
		Brass, bronze, red brass		90	310							
		Cu alloy, short chip		110	380							
		High tensile, Ampco alloy		300	1010							
S	Heat-resistant alloy	Fe-based	Annealed	200	680							
			Aged	280	940							
		Ni or Co based	Annealed	250	840							
			Aged	350	1180							
			Cast	320	1080							
	Titanium alloy	Pure Titanium		200	680							
		α and β alloy, aged		375	1260							
		β alloy		410	1400							
	Tungsten alloy			300	1010							
	Molybdenum alloy			300	1010							
H	Hardened steel	Hardened and tempered		50HRC								
		Hardened and tempered		55HRC								
		Hardened and tempered		60HRC								
	Chilled cast iron	Hardened and tempered		55HRC								

* The recommended cutting data always refer to general cutting conditions. The actual selection should be adjusted according to the factors such as machine rigidity, tool body, workpiece conditions and coolant (f should be adjust according to insert radius)

Achteck turning grade																		
Initial value of cutting speed Vc(m/min)																		
	AC052P			AC152P			AC252P			AC350P			AC100M			AC200M		
	f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)		
	0.10	0.40	0.60	0.10	0.40	0.60	0.10	0.40	0.60	0.10	0.40	0.60	0.10	0.30	0.50	0.10	0.30	0.50
	620	450	330	485	360	270	380	260	210	250	170	140						
	560	405	295	370	270	210	280	200	150	200	135	110						
	400	280	200	260	220	170	200	160	135	150	125	90						
	530	385	275	270	220	160	240	160	125	170	110	90						
	380	245	180	210	180	150	160	120	110	125	75	65						
	600	420	300	440	310	250	340	220	175	220	145	115						
	610	410	285	350	260	220	240	175	135	200	165	150						
	530	350	250	220	170	150	140	100	85	135	90	70						
	330	230	175	160	120	100	100	70	55	90	65	45						
	265	185	140	90	70													
	445	295	215	330	230	150	210	145	85	180	150	85						
	300	200	160	230	140	110	130	85	65	110	85	65						
	220	140	105	80	70													
							180	150	120	150	120	95	220	180	150	190	160	130
							140	100	70	110	80	60	170	140	130	140	110	100
													250	190	150	200	160	110
													180	160		150	120	
													190	170	130	160	130	100
													360	300	260			
													330	280	250			
													450	400	350			
													350	300	250			
													300	250	200			
													300	250	200			
													80	60	40	70	50	30
													70	50	30	60	40	20
													70	50	35	60	40	25
													70	50	30	60	40	20
													70	50	30	60	40	20

Cutting Data Recommendation--Negative Insert

Materials												
ISO	Workpiece Materials			Brinell Hardness (HB)	Tensile strength (N/mm^2)	AP200U f (mm/rev)			AP301M f (mm/rev)			
						0.10	0.30	0.50	0.10	0.30	0.50	
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	220	210					
		0.25 < C ≤ 0.55%	Annealed	190	639	170	150					
		0.25 < C ≤ 0.55%	Heat-treated	210	708	140	120					
		C > 0.55%	Annealed	190	639	130	120					
		C > 0.55%	Heat-treated	300	1013							
		Free cutting steel(short chip)	Annealed	220	745	190	170					
	Low-alloyed steel	Annealed		175	591	130	110					
		Heat-treated		300	1013							
		Heat-treated		380	1282							
		Heat-treated		430	1477							
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	120	80					
		Hardened and tempered		300	1013							
		Hardened and tempered		400	1361							
	Stainless steel	Ferritic/Martensite, Annealed		200	675	145	130	90				
		Martensite, Heat-treated		330	1114	105	80	70				
M	Stainless steel	Austenitic,hardened		200	675	180	120	80	180	120	80	
		Austenitic,precipitation hardened stainless steel(PH stainless steel)		300	1013	110	90		110	90		
		Austenitic, ferritic, duplex		230	778	120	100	70	120	100	70	
K	Malleable cast iron	Ferritic		200	400							
		Pearlitic		260	700							
	Grey cast iron	Low tensile strength		180	200							
		High tensile strength/Austenitic		245	350							
	Nodular cast iron	Ferritic		155	400							
		Pearlitic		265	700							
	GGV(CGI)			230	400							
N	Wrought aluminum alloy	Non-aging alloy		30	-							
		Aged alloy		100	340							
	Cast aluminum alloy	≤ 12% Si, non-aging alloy		75	260							
		≤ 12% Si, aged alloy		90	310							
		> 12% Si, non-aging alloy		130	450							
	Magnesium alloy			70	250							
	Copper and copper alloy (bronze/brass)	Unalloyed, electrolytic copper		100	340							
		Brass, bronze, red brass		90	310							
		Cu alloy, short chip		110	380							
		High tensile, Ampco alloy		300	1010							
S	Heat-resistant alloy	Fe-based	Annealed	200	680				40	25		
			Aged	280	940				30	20		
		Ni or Co based	Annealed	250	840				30	25		
			Aged	350	1180				30	20		
			Cast	320	1080				30	20		
	Titanium alloy	Pure Titanium		200	680							
		α and β alloy, aged		375	1260							
		β alloy		410	1400							
	Tungsten alloy			300	1010							
	Molybdenum alloy			300	1010							
H	Hardened steel	Hardened and tempered		50HRC								
		Hardened and tempered		55HRC								
		Hardened and tempered		60HRC								
	Chilled cast iron	Hardened and tempered		55HRC								

* The recommended cutting data always refer to general cutting conditions. The actual selection should be adjusted according to the factors such as machine rigidity, tool body, workpiece conditions and coolant (f should be adjust according to insert radius)

Achteck turning grade																		
Initial value of cutting speed Vc(m/min)																		
	AC100K			AC102K			AC202K			AW100K			AP010S			AP100S		
	f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)		
	0.10	0.30	0.50	0.10	0.30	0.50	0.10	0.30	0.50	0.10	0.20	0.40	0.10	0.30	0.50	0.10	0.30	0.50
													240	190	150	240	190	150
													150	85		150	85	
													170	145	100	170	145	100
	280	200	170	270	190	160	240	160	130									
	250	170	130	245	160	125	200	120	95									
	490	260	200	490	250	190	400	210	150									
	250	180	140	240	170	130	200	150	100									
	270	200	150	260	190	250	230	170	120									
	210	160	140	200	150	130	170	120	100									
													100	65		100	65	
													80	55		80	55	
													80	55		80	55	
													70	45		70	45	
													60	30		60	30	
													200	180	140	200	180	140
													90	55	45	90	55	45
													55	35	30	55	35	30

Cutting Data Recommendation--Positive Insert

Materials												
ISO	Workpiece Materials			Brinell Hardness (HB)	Tensile strength (N/mm^2)	AT202 f (mm/rev)			AT210A f (mm/rev)			
						0.10	0.30	0.50	0.10	0.30	0.50	
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	200	100	70	310	200	160	
		0.25 < C ≤ 0.55%	Annealed	190	639	200	100	70	310	200	160	
		0.25 < C ≤ 0.55%	Heat-treated	210	708	200	80	50	310	180	140	
		C > 0.55%	Annealed	190	639	200	80	50	310	180	140	
		C > 0.55%	Heat-treated	300	1013	200	80	50	310	180	140	
		Free cutting steel(short chip)	Annealed	220	745	200	80	50	310	180	140	
	Low-alloyed steel	Annealed		175	591	180	80	50	290	180	140	
		Heat-treated		300	1013	180	80	50	290	180	140	
		Heat-treated		380	1282	180	80	50	290	180	140	
		Heat-treated		430	1477	180	80	50	290	180	140	
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	160	80	50	270	180	140	
		Hardened and tempered		300	1013	160	80	50	270	180	140	
		Hardened and tempered		400	1361	150	80	50	270	180	140	
	Stainless steel	Ferritic/Martensite, Annealed		200	675							
		Martensite, Heat-treated		330	1114							
M	Stainless steel	Austenitic,hardened		200	675							
		Austenitic,precipitation hardened stainless steel(PH stainless steel)		300	1013							
		Austenitic, ferritic, duplex		230	778							
K	Malleable cast iron	Ferritic		200	400							
		Pearlitic		260	700							
	Grey cast iron	Low tensile strength		180	200							
		High tensile strength/Austenitic		245	350							
	Nodular cast iron	Ferritic		155	400							
		Pearlitic		265	700							
	GGV(CGI)			230	400							
N	Wrought aluminum alloy	Non-aging alloy		30	-							
		Aged alloy		100	340							
	Cast aluminum alloy	≤ 12% Si, non-aging alloy		75	260							
		≤ 12% Si, aged alloy		90	310							
		> 12% Si, non-aging alloy		130	450							
	Magnesium alloy			70	250							
	Copper and copper alloy (bronze/brass)	Unalloyed, electrolytic copper		100	340							
		Brass, bronze, red brass		90	310							
		Cu alloy, short chip		110	380							
		High tensile, Ampco alloy		300	1010							
S	Heat-resistant alloy	Fe-based	Annealed	200	680							
			Aged	280	940							
		Ni or Co based	Annealed	250	840							
			Aged	350	1180							
			Cast	320	1080							
	Titanium alloy	Pure Titanium		200	680							
		α and β alloy, aged		375	1260							
		β alloy		410	1400							
	Tungsten alloy			300	1010							
	Molybdenum alloy			300	1010							
H	Hardened steel	Hardened and tempered		50HRC								
		Hardened and tempered		55HRC								
		Hardened and tempered		60HRC								
	Chilled cast iron	Hardened and tempered		55HRC								

* The recommended cutting data always refer to general cutting conditions. The actual selection should be adjusted according to the factors such as machine rigidity, tool body, workpiece conditions and coolant (f should be adjust according to insert radius)

Achteck turning grade																		
Initial value of cutting speed Vc(m/min)																		
	AC052P			AC152P			AC252P			AC350P			AC100M			AC200M		
	f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)		
	0.10	0.40	0.60	0.10	0.40	0.60	0.10	0.40	0.60	0.10	0.40	0.60	0.10	0.30	0.50	0.10	0.30	0.50
	600	430	310	465	400	330	360	310	260	230	150	120						
	540	385	275	360	330	260	290	250	190	180	115	100						
	380	260	180	270	240	220	200	180	160	130	115	85						
	520	365	255	330	300	290	250	220	210	150	100	85						
	360	225	160	210	180	170	160	130	120	115	65	55						
	580	400	280	440	400	380	320	290	275	210	135	105						
	590	390	265	330	310	300	260	240	220	190	155	130						
	510	330	230	180	170	160	135	120	100	125	80	65						
	320	210	155	120	100	90	100	85	65	90	65	45						
	265	165	120	80	70		65	55										
	425	275	195	320	290	280	270	240	220	170	140	75						
	280	180	140	200	170	150	170	140	120	100	80	60						
	200	120	105	80	70		65	66										
							190	170	150	120	100	90	200	170	140	180	150	120
							90	80	60	70	60	50	160	140	130	130	110	100
													230	180	140	190	150	110
													170	150		140	110	
													180	160	130	150	120	100
													80	60	40	70	50	30
													70	50	30	60	40	20
													70	50	35	60	40	25
													70	50	30	60	40	20
													70	50	30	60	40	20

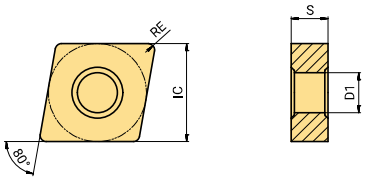
Cutting Data Recommendation--Positive Insert

Materials												
ISO	Workpiece Materials			Brinell Hardness (HB)	Tensile strength (N/mm^2)	AP200U f (mm/rev)			AP301M f (mm/rev)			
						0.10	0.30	0.50	0.10	0.30	0.50	
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	210	200					
		0.25 < C ≤ 0.55%	Annealed	190	639	160	140					
		0.25 < C ≤ 0.55%	Heat-treated	210	708	140	120					
		C > 0.55%	Annealed	190	639	130	120					
		C > 0.55%	Heat-treated	300	1013							
		Free cutting steel(short chip)	Annealed	220	745	190	170					
	Low-alloyed steel	Annealed		175	591	130	110					
		Heat-treated		300	1013							
		Heat-treated		380	1282							
		Heat-treated		430	1477							
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	120	80					
		Hardened and tempered		300	1013							
		Hardened and tempered		400	1361							
	Stainless steel	Ferritic/Martensite, Annealed		200	675	135	120	90				
		Martensite, Heat-treated		330	1114	105	80	70				
M	Stainless steel	Austenitic,hardened		200	675	170	110	80	170	110	80	
		Austenitic,precipitation hardened stainless steel(PH stainless steel)		300	1013	110	80		110	80		
		Austenitic, ferritic, duplex		230	778	110	90	70	110	90	70	
K	Malleable cast iron	Ferritic		200	400							
		Pearlitic		260	700							
	Grey cast iron	Low tensile strength		180	200							
		High tensile strength/Austenitic		245	350							
	Nodular cast iron	Ferritic		155	400							
		Pearlitic		265	700							
	GGV(CGI)			230	400							
N	Wrought aluminum alloy	Non-aging alloy		30	-							
		Aged alloy		100	340							
	Cast aluminum alloy	≤ 12% Si, non-aging alloy		75	260							
		≤ 12% Si, aged alloy		90	310							
		> 12% Si, non-aging alloy		130	450							
	Magnesium alloy			70	250							
	Copper and copper alloy (bronze/brass)	Unalloyed, electrolytic copper		100	340							
		Brass, bronze, red brass		90	310							
		Cu alloy, short chip		110	380							
		High tensile, Ampco alloy		300	1010							
S	Heat-resistant alloy	Fe-based	Annealed	200	680				40	25		
			Aged	280	940				30	20		
		Ni or Co based	Annealed	250	840				30	25		
			Aged	350	1180				30	20		
			Cast	320	1080				30	20		
	Titanium alloy	Pure Titanium		200	680							
		α and β alloy, aged		375	1260				65	45	35	
		β alloy		410	1400				35	35	30	
	Tungsten alloy			300	1010							
	Molybdenum alloy			300	1010							
H	Hardened steel	Hardened and tempered		50HRC								
		Hardened and tempered		55HRC								
		Hardened and tempered		60HRC								
	Chilled cast iron	Hardened and tempered		55HRC								

* The recommended cutting data always refer to general cutting conditions. The actual selection should be adjusted according to the factors such as machine rigidity, tool body, workpiece conditions and coolant (f should be adjust according to insert radius)

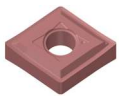
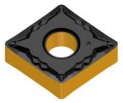
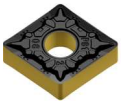
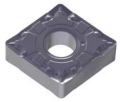
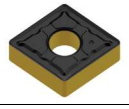
Achteck turning grade															
Initial value of cutting speed Vc(m/min)															
	AC102K			AC202K			AW100K			AP010S			AP100S		
	f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)		
	0.10	0.30	0.50	0.10	0.30	0.50	0.10	0.20	0.40	0.10	0.30	0.50	0.10	0.30	0.50
										240	190	150	220	200	130
										150	85		160	140	
										170	145	100	170	150	110
	260	190	160	250	180	150									
	230	160	120	235	150	115									
	470	250	190	470	240	180									
	230	170	130	220	160	120									
	250	190	140	240	180	140									
	190	150	130	180	140	120									
							750	600	300						
							800	450	300						
							500	300	200						
							600	400	270						
							400	300	200						
							280	200	130						
										100	65		100	70	
										80	55		80	60	
										80	55		80	60	
										70	45		70	50	
										60	30		60	40	

Negative 80° (C)



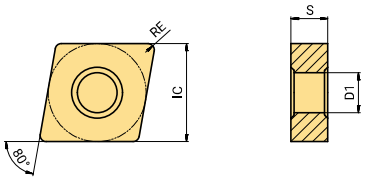
(mm)

Product code	IC	S	D1
CN_1204_	12.70	4.76	5.16
CN_1606_	15.875	6.35	6.35
CN_1906_	19.05	6.35	7.94

Inserts		Product code	RE (mm)	Recommanded parameters		Machining conditions	● Good Conditions ◖◗ General Conditions ✱ Bad Conditions														
							●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
							P						M				K			N	S	
				f (mm/rev)	ap (mm)		AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Finishing		**CNGG 120401FP-UF**	0.10	0.02–0.12	0.50–2.50										○	●					●	○
		120402FP-UF	0.20	0.02–0.12	0.50–2.50										○	●					●	○
		120404FP-UF	0.40	0.02–0.12	0.50–2.50										○	●					●	○
		**CNMG 120402E-PA1**	0.20	0.04–0.25	0.20–1.50		●	●	●	●												
		120404E-PA1	0.40	0.04–0.28	0.20–1.50		●	●	●	●												
		120408E-PA1	0.80	0.05–0.35	0.20–1.50		●	●	●	●												
		120412E-PA1	1.20	0.05–0.42	0.20–1.50		●	●		●												
		**CNMG 120404E-PB1**	0.40	0.05–0.15	0.26–3.20		●	●	●	●	○											
		120408E-PB1	0.80	0.10–0.30	0.52–3.20		●	●	○	●	○											
		120412E-PB1	1.20	0.15–0.45	0.78–3.20		○	○	●	●	●											
		**CNMG 120404E-SC1**	0.40	0.07–0.18	0.20–0.80										●						●	
		120408E-SC1	0.80	0.10–0.25	0.20–0.80										●						●	
		**CNMG 120404E-MB2**	0.40	0.05–0.15	0.26–3.20								●	●	●	●						
		120408E-MB2	0.80	0.10–0.30	0.52–3.20								●	●	●	●						
Semi-finishing		**CNMG 120404E-SL3**	0.40	0.12–0.25	0.60–3.00										●						●	●
		120408E-SL3	0.80	0.15–0.30	0.80–3.00										●						●	●
		**CNMG 120404-F2K**	0.40	0.12–0.24	0.50–2.50		●															
		120408-F2K	0.80	0.15–0.30	0.50–2.50		●															
		**CNMG 120404E-PB3**	0.40	0.06–0.18	0.30–3.50		●	●	●	●	○											
		120408E-PB3	0.80	0.12–0.36	0.60–3.50		●	●	●	●	○											
		120412E-PB3	1.20	0.18–0.54	0.90–3.50		●	●	○	●	○											
		**CNMG 120404E-PC3**	0.40	0.07–0.20	0.34–3.90		●	●		○												
		120408E-PC3	0.80	0.14–0.40	0.68–3.90		●	●	●	●												
		120412E-PC3	1.20	0.20–0.60	1.02–3.90		●	●		○	○											
		**CNMG 120404E-SC3**	0.40	0.08–0.22	0.40–4.30								●	●	●						●	●
		120408E-SC3	0.80	0.15–0.44	0.80–4.30								●	●	●	●					●	●
		120412E-SC3	1.20	0.23–0.66	1.20–4.30								●	●	●						●	●
		160612E-SC3	1.20	0.23–0.66	1.20–5.30								●	●	●						●	●

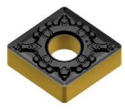
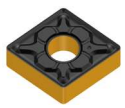
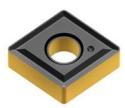
● : Standard stock ○ : Made-to-Order

Negative 80° (C)



(mm)

Product code	IC	S	D1
CN_1204_	12.70	4.76	5.16
CN_1606_	15.875	6.35	6.35
CN_1906_	19.05	6.35	7.94

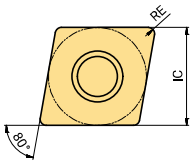
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ◖◗ General Conditions ✱ Bad Conditions														
						●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
						P						M				K			N	S	
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Semi-finishing		**CNMG 160616E-SC3**	1.60	0.30–0.88	1.60–5.30							●	●	●						●	●
		190612E-SC3	1.20	0.23–0.66	1.20–6.40							●	●	●						●	●
		190616E-SC3	1.60	0.30–0.88	1.60–6.40							●	●	●						●	●
		**CNMG 120404E-MC3**	0.40	0.08–0.22	0.32–4.30							●	●	●	●						
		120408E-MC3	0.80	0.15–0.44	0.64–4.30							●	●	●	●						●
		120412E-MC3	1.20	0.23–0.66	0.96–4.30							●	●	●	●						
		120416E-MC3	1.60	0.30–0.88	1.28–4.30							●	●	●							
		160608E-MC3	0.80	0.15–0.44	0.64–5.30							●	●	●	●						
		160612E-MC3	1.20	0.23–0.66	0.96–5.30							●	●	●							
		190608E-MC3	0.80	0.15–0.44	0.64–6.40							●	●	●	●						
		190612E-MC3	1.20	0.23–0.66	0.96–6.40							●	●	●							
Medium		**CNMG 120404E-PD3**	0.40	0.08–0.22	0.40–4.30	●	●		●	●											
		120408E-PD3	0.80	0.15–0.44	0.80–4.30	●	●	●	●	●	●										
		120412E-PD3	1.20	0.23–0.66	1.20–4.30	●	●	●	●	○	●										
		160608E-PD3	0.80	0.15–0.44	0.80–5.30			○	○	●											
		160612E-PD3	1.20	0.23–0.66	1.20–5.30			●	●	○	●										
		190608E-PD3	0.80	0.15–0.44	0.80–6.40			●	○	○											
		190612E-PD3	1.20	0.23–0.66	1.20–6.40			○	●	●											
		190616E-PD3	1.60	0.30–0.66	1.60–6.40			●	○	●											
		**CNMG 120404E-UC4**	0.40	0.08–0.24	0.40–5.00			●	●	●				●							
		120408E-UC4	0.80	0.15–0.48	0.80–5.00			●	●	●				●							
		120412E-UC4	1.20	0.23–0.72	1.20–5.00			●	●	●				●							
		160608E-UC4	0.80	0.15–0.48	0.80–5.50			●	●	●											
		160612E-UC4	1.20	0.23–0.72	1.20–5.50			●	●	●											
		**CNMG 120404E-PC4**	0.40	0.08–0.22	0.40–4.30				●	○							●	●			
		120408E-PC4	0.80	0.15–0.44	0.80–4.30			○	○	●							●	●			
		120412E-PC4	1.20	0.23–0.66	1.20–4.30			○	●	○							●	●			
		160612E-PC4	1.20	0.23–0.66	1.20–5.30			○	●								●	●			
		160616E-PC4	1.60	0.30–0.88	1.60–5.30			○	○								●	●			
		190612E-PC4	1.20	0.23–0.66	1.20–6.40			○	○								●	●			

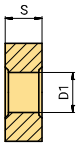
● : Standard stock ○ : Made-to-Order

Negative 80° (C)

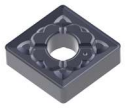
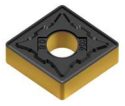
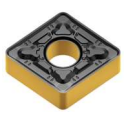
(mm)

Product code	IC	S	D1
CN_0903_	9.525	3.18	3.81
CN_1204_	12.70	4.76	5.16
CN_1606_	15.875	6.35	6.35
CN_1906_	19.05	6.35	7.94



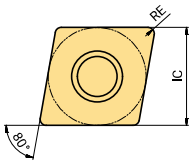


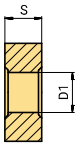
● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Roughing		**CNMG 120408E-MC4**	0.80	0.20–0.60	1.20–6.40							●	●	●	●						●
		120412E-MC4	1.20	0.30–0.90	1.80–6.40							●	●	●	●						●
		160612E-MC4	1.20	0.30–0.90	1.80–8.10							●	●	●	●						●
		160616E-MC4	1.60	0.40–1.20	2.40–8.10							●	●	●							
		190612E-MC4	1.20	0.30–0.90	1.80–9.70							●	●	●	●						
		190616E-MC4	1.60	0.40–1.20	2.40–9.70							●	●	●	●						
		**CNMG 090308E-KC4**	0.80	0.18–0.48	0.96–3.90												●	●			
		120404E-KC4	0.40	0.09–0.24	0.48–5.20												●	●			
		120408E-KC4	0.80	0.18–0.48	0.96–5.20											●	●	●			
		120412E-KC4	1.20	0.26–0.72	1.44–5.20											●	●	●			
		120416E-KC4	1.60	0.35–0.96	1.92–5.20												●	●			
		160608E-KC4	0.80	0.18–0.48	0.96–6.40												●	●			
		160612E-KC4	1.20	0.26–0.72	1.44–6.40												●	●			
		160616E-KC4	1.60	0.35–0.96	1.92–6.40											●	●	●			
		190608E-KC4	0.80	0.18–0.48	0.96–7.70												●	●			
		190612E-KC4	1.20	0.26–0.72	1.44–7.70												●	●			
		190616E-KC4	1.60	0.35–0.96	1.92–7.70												●	●			
		190624E-KC4	2.40	0.53–1.44	2.88–7.70												●	●			
		**CNMG 120408E-PD5**	0.80	0.20–0.60	1.20–6.40			●	●	●	●										
		120412E-PD5	1.20	0.30–0.90	1.80–6.40			○	●	●	●										
		160608E-PD5	0.80	0.20–0.60	1.20–8.10			●	○												
		160612E-PD5	1.20	0.30–0.90	1.80–8.10			●	●	●	●										
		160616E-PD5	1.60	0.40–1.20	2.40–8.10			○	○	○	●										
		160624E-PD5	2.40	0.60–1.80	3.60–8.10			○	●	○											
		190612E-PD5	1.20	0.30–0.90	1.80–9.70			●	●	●	●										
		190616E-PD5	1.60	0.40–1.20	2.40–9.70			○	●	●											

● : Standard stock ○ : Made-to-Order

Negative 80° (C)

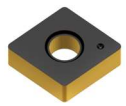
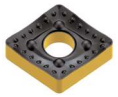
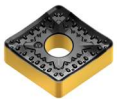
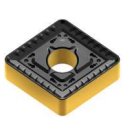
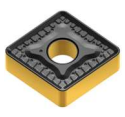




(mm)

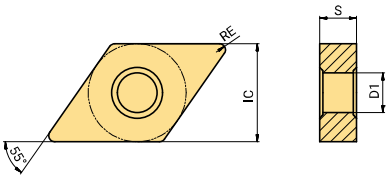
Product code	IC	S	D1
CN_1204_	12.70	4.76	5.16
CN_1606_	15.875	6.35	6.35
CN_1906_	19.05	6.35	7.94
CN_2507_	25.40	7.94	9.12
CN_2509_	25.40	9.52	9.12

● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Roughing		**CNMA 120404E-KD5**	0.40	0.10–0.30	0.60–6.40												●	●			
		120408E-KD5	0.80	0.20–0.60	1.20–6.40											●	●	●			
		120412E-KD5	1.20	0.30–0.90	1.80–6.40											●	●	●			
		120416E-KD5	1.60	0.40–1.20	2.40–6.40											●	●	●			
		160608E-KD5	0.80	0.20–0.60	1.20–8.10												●	●			
		160612E-KD5	1.20	0.30–0.90	1.80–8.10											●	●	●			
		160616E-KD5	1.60	0.40–1.20	2.40–8.10											●	●	●			
		160620E-KD5	2.00	0.50–1.50	3.00–8.10												●	●			
		190608E-KD5	0.80	0.20–0.60	1.20–9.70											●	●	●			
		190612E-KD5	1.20	0.30–0.90	1.80–9.70											●	●	●			
		190616E-KD5	1.60	0.40–1.20	2.40–9.70											●	●	●			
Heavy roughing		**CNMM 190616E-PC8**	1.60	0.32–0.64	2.88–7.70				○	○											
		190624E-PC8	2.40	0.48–0.96	4.32–7.70				○	○											
		**CNMM 120408E-PD8**	0.80	0.16–0.32	1.44–5.20				○	○											
		120412E-PD8	1.20	0.24–0.48	2.16–5.20				○	○	●										
		160612E-PD8	1.20	0.24–0.48	2.16–6.40				○	●	●										
		160616E-PD8	1.60	0.32–0.64	2.88–6.40				○	●											
		160624E-PD8	2.40	0.48–0.96	4.32–6.40				○	○											
		190612E-PD8	1.20	0.24–0.48	2.16–7.70			○	○	●											
		190616E-PD8	1.60	0.32–0.64	2.88–7.70			○	○	●											
		190624E-PD8	2.40	0.48–0.96	4.32–7.70			○	○	○	●										
		250724E-PD8	2.40	0.48–0.96	4.32–10.30				○	○											
		250924E-PD8	2.40	0.48–0.96	4.32–10.30				○	○											
		**CNMM 190612S-PC9**	1.20	0.26–0.60	2.40–9.70				○	●											
		190616S-PC9	1.60	0.35–0.80	3.20–9.70			●	●	●											
		190624S-PC9	2.40	0.53–1.20	4.80–9.70				●	○											
		250724S-PC9	2.40	0.53–1.20	4.80–12.90				○	○											
		250924S-PC9	2.40	0.53–1.20	4.80–12.90				●	●											
		**CNMM 190612S-PD9**	1.20	0.30–0.72	2.64–11.60				○	○	●										
		190616S-PD9	1.60	0.40–0.96	3.52–11.60				○	○											
		190624S-PD9	2.40	0.60–1.44	5.28–11.60				●	○											
		250724S-PD9	2.40	0.60–1.44	5.28–15.50				○	○											
		250924S-PD9	2.40	0.60–1.44	5.28–15.50				○	○	●										

● : Standard stock ○ : Made-to-Order

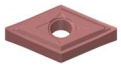
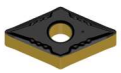
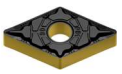
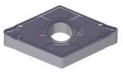
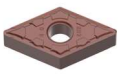
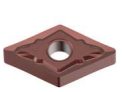
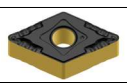
Negative 55° (D)



(mm)

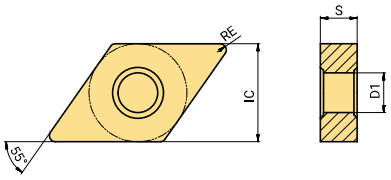
Product code	IC	S	D1
DN_1104_	9.525	4.76	3.81
DN_1504_	12.70	4.76	5.16
DN_1506_	12.70	6.35	5.16

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
				Machining conditions		●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●	●
Finishing		**DNGG 150401FP-UF**	0.10	0.02–0.12	0.50–2.50									○	●						
		150402FP-UF	0.20	0.02–0.12	0.50–2.50									○	●						
		150404FP-UF	0.40	0.02–0.12	0.50–2.50									○	●						
		**DNMG 150402E-PA1**	0.20	0.04–0.25	0.20–1.50	●	●		○												
		150404E-PA1	0.40	0.04–0.28	0.20–1.50	●	●	●	●												
		150408E-PA1	0.80	0.05–0.35	0.20–1.50	●	●	●	●												
		150412E-PA1	1.20	0.05–0.42	0.20–1.50	●	●	○	○												
		150602E-PA1	0.20	0.04–0.25	0.20–1.50	●	●		○												
		150604E-PA1	0.40	0.04–0.28	0.20–1.50	●	●	○	○												
		150608E-PA1	0.80	0.05–0.35	0.20–1.50	●	●	●	●												
		150612E-PA1	1.20	0.05–0.42	0.20–1.50	●	●														
		**DNMG 110404E-PB1**	0.40	0.05–0.15	0.26–2.30	●	●	○	●	○											
		150404E-PB1	0.40	0.05–0.15	0.26–3.10	●	●	○	●	○											
		150408E-PB1	0.80	0.10–0.30	0.52–3.10	●	●	○	●	●											
		150604E-PB1	0.40	0.05–0.15	0.26–3.10	●	●		●	●											
		150608E-PB1	0.80	0.10–0.30	0.52–3.10	●	●	○	●	○											
		150612E-PB1	0.80	0.10–0.30	0.52–3.10				●	○											
		**DNMG 150404E-SC1**	0.40	0.07–0.18	0.20–0.80										●					●	
		150408E-SC1	0.80	0.10–0.25	0.20–0.80										●					●	
		150604E-SC1	0.40	0.07–0.18	0.20–0.80										●					●	
		150608E-SC1	0.80	0.10–0.25	0.20–0.80										●					●	
		**DNMG 150404E-MB2**	0.40	0.05–0.15	0.26–2.90							●		●							●
		150408E-MB2	0.80	0.10–0.30	0.52–2.90							●									●
		150604E-MB2	0.40	0.05–0.15	0.26–2.90							●		●							●
		150608E-MB2	0.80	0.10–0.30	0.52–2.90							●		●							●
Semi-finishing		**DNMG 110408E-SL3**	0.80	0.12–0.30	0.80–2.50										●					●	●
		150404E-SL3	0.40	0.12–0.25	0.60–2.50										●					●	●
		150408E-SL3	0.80	0.12–0.30	0.80–2.50										●					●	●
		150604E-SL3	0.40	0.12–0.25	0.60–2.50										●					●	●
		150608E-SL3	0.80	0.12–0.30	0.80–2.50										●					●	●
		**DNMG 110408E-BS**	0.80	0.10–0.25	0.70–2.00			●	○												

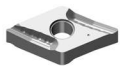
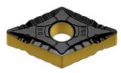
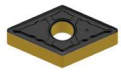
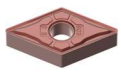
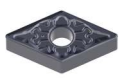
● : Standard stock ○ : Made-to-Order

Negative 55° (D)



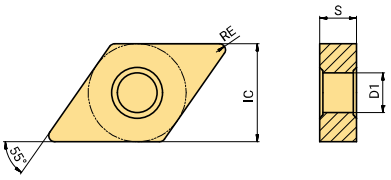
(mm)

Product code	IC	S	D1
DN_1104_	9.525	4.76	3.81
DN_1504_	12.70	4.76	5.16
DN_1506_	12.70	6.35	5.16

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ◖◗ General Conditions ✱ Bad Conditions															
						●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
						P						M				K			N	S	
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Semi-finishing		**DNMG 150404R-M1T**	0.40	0.10–0.35	0.70–4.50	●	●														
		150404L-M1T	0.40	0.10–0.35	0.70–4.50	●	●														
		**DNMG 150404E-PB3**	0.40	0.06–0.18	0.30–3.10	●	●	●	●	○											
		150408E-PB3	0.80	0.12–0.36	0.60–3.10	●	●	●	●	○											
		150412E-PB3	1.20	0.18–0.54	0.90–3.10	●	●	○	●	○											
		150604E-PB3	0.40	0.06–0.18	0.30–3.10	●	●		●	●											
		150608E-PB3	0.80	0.12–0.36	0.60–3.10	●	●	●	●	○											
		150612E-PB3	1.20	0.18–0.54	0.90–3.10	●	●	○	●	●											
		**DNMG 110408E-PC3**	0.80	0.14–0.40	0.68–2.60				○												
		110412E-PC3	1.20	0.20–0.60	1.02–2.60				●												
		150404E-PC3	0.40	0.07–0.20	0.34–3.50	●	●		○												
		150408E-PC3	0.80	0.14–0.40	0.68–3.50	●	●	○	○												
		150412E-PC3	1.20	0.20–0.60	1.02–3.50	●	●		○												
		150604E-PC3	0.40	0.07–0.20	0.34–3.50	●	●		○												
		150608E-PC3	0.80	0.14–0.40	0.68–3.50	●	●		●	○											
		150612E-PC3	1.20	0.20–0.60	1.02–3.50	●	●		●												
		**DNMG 150404E-SC3**	0.40	0.08–0.22	0.40–3.90							●			●					●	●
		150408E-SC3	0.80	0.15–0.44	0.80–3.90							●			●					●	●
		150412E-SC3	1.20	0.23–0.66	1.20–3.90							●			●					●	●
		150604E-SC3	0.40	0.08–0.22	0.40–3.90							●			●					●	●
		150608E-SC3	0.80	0.15–0.44	0.80–3.90							●			●					●	●
		150612E-SC3	1.20	0.23–0.66	1.20–3.90							●			●					●	●
		**DNMG 110404E-MC3**	0.40	0.08–0.22	0.32–2.90							●		●	●						
		110408E-MC3	0.80	0.15–0.44	0.64–2.90							●		●	●						
		150404E-MC3	0.40	0.08–0.22	0.32–3.90							●	●	●	●						
		150408E-MC3	0.80	0.15–0.44	0.64–3.90							●		●	●						
		150412E-MC3	1.20	0.23–0.66	0.96–3.90							●		●	●						
		150604E-MC3	0.40	0.08–0.22	0.32–3.90							●		●	●						
		150608E-MC3	0.80	0.15–0.44	0.64–3.90							●		●	●						
		150612E-MC3	1.20	0.23–0.66	0.96–3.90							●		●	●						

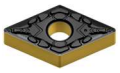
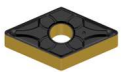
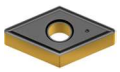
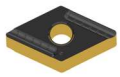
● : Standard stock ○ : Made-to-Order

Negative 55° (D)



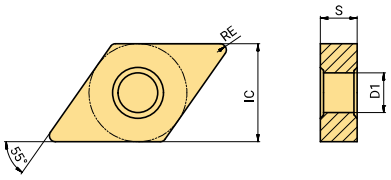
(mm)

Product code	IC	S	D1
DN_1104_	9.525	4.76	3.81
DN_1504_	12.70	4.76	5.16
DN_1506_	12.70	6.35	5.16

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
		Machining conditions				●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●	●
Medium		**DNMG 110404E-PD3**	0.40	0.08–0.22	0.40–2.90	●	●		●	○											
		110408E-PD3	0.80	0.15–0.44	0.80–2.90	●	●	●	●	●											
		110412E-PD3	1.20	1.20–2.90	0.23–0.66				○												
		150404E-PD3	0.40	0.08–0.22	0.40–3.90	●	●		●	○											
		150408E-PD3	0.80	0.15–0.44	0.80–3.90	●	●	○	●	○	●										
		150412E-PD3	1.20	0.23–0.66	1.20–3.90			○	●	●	●										
		150604E-PD3	0.40	0.08–0.22	0.40–3.90				●	●	●										
		150608E-PD3	0.80	0.15–0.44	0.80–3.90			●	●	●	●										
		150612E-PD3	1.20	0.23–0.66	1.20–3.90			●	●	●	●										
		**DNMG 150408E-UC4**	0.80	0.15–0.48	0.80–4.50			●	●	●											
		150608E-UC4	0.80	0.15–0.48	0.80–4.50			●	●	●											
		150612E-UC4	1.20	0.23–0.72	1.20–4.50			●	●	●											
		**DNMG 150404E-PC4**	0.40	0.08–0.22	0.40–3.90	●	●		○	○							●	●			
		150408E-PC4	0.80	0.15–0.44	0.80–3.90	●	●	○	○	○							●	●			
		150412E-PC4	1.20	0.23–0.66	1.20–3.90			○	○	○							●	●			
		150604E-PC4	0.40	0.08–0.22	0.40–3.90	●	●		○	○							●	●			
		150608E-PC4	0.80	0.15–0.44	0.80–3.90	●	●	●	●	●							●	●			
		150612E-PC4	1.20	0.23–0.66	1.20–3.90			●	●	○							●	●			
		**DNMG 150608R-PL5**	0.80	0.15–0.44	0.80–3.90				●	●											

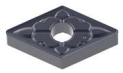
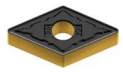
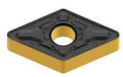
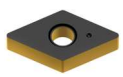
● : Standard stock ○ : Made-to-Order

Negative 55° (D)



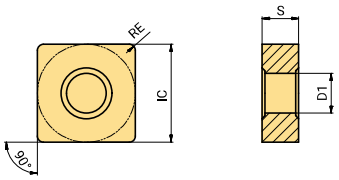
(mm)

Product code	IC	S	D1
DN_1104_	9.525	4.76	3.81
DN_1504_	12.70	4.76	5.16
DN_1506_	12.70	6.35	5.16

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
		Machining conditions				●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●	●
Roughing		**DNMG 150408E-MC4**	0.80	0.20–0.60	1.20–5.40							●		●	●						●
		150412E-MC4	1.20	0.30–0.90	1.80–5.40							●			●						
		150608E-MC4	0.80	0.20–0.60	1.20–5.40							●		●	●						●
		150612E-MC4	1.20	0.30–0.90	1.80–5.40							●		●	●						●
		**DNMG 110404E-KC4**	0.40	0.09–0.24	0.48–3.50												●	●			
		110408E-KC4	0.80	0.18–0.48	0.96–3.50												●	●			
		150404E-KC4	0.40	0.09–0.24	0.48–4.60												●	●			
		150408E-KC4	0.80	0.18–0.48	0.96–4.60												●	●			
		150412E-KC4	1.20	0.26–0.72	1.44–4.60												●	●			
		150604E-KC4	0.40	0.09–0.24	0.48–4.60												●	●			
		150608E-KC4	0.80	0.18–0.48	0.96–4.60												●	●			
		150612E-KC4	1.20	0.26–0.72	1.44–4.60												●	●			
		**DNMG 150408E-PD5**	0.80	0.20–0.60	1.20–5.40			○	○	○											
		150412E-PD5	1.20	0.30–0.90	1.80–5.40			●	○	○											
		150416E-PD5	1.60	0.40–1.20	2.40–5.40			○	○	●											
		150608E-PD5	0.80	0.20–0.60	1.20–5.40			○	○	●	●										
		150612E-PD5	1.20	0.30–0.90	1.80–5.40			○	●	●	●										
		150616E-PD5	1.60	0.40–1.20	2.40–5.40			●	●	○											
		**DNMA 150404E-KD5**	0.40	0.10–0.30	0.60–5.40												●	●			
		150408E-KD5	0.80	0.20–0.60	1.20–5.40											●	●	●			
		150412E-KD5	1.20	0.30–0.90	1.80–5.40											●	●	●			
		150604E-KD5	0.40	0.10–0.30	0.60–5.40												●	●			
		150608E-KD5	0.80	0.20–0.60	1.20–5.40											●	●	●			
		150612E-KD5	1.20	0.30–0.90	1.80–5.40											●	●	●			

● : Standard stock ○ : Made-to-Order

Negative 90° (S)



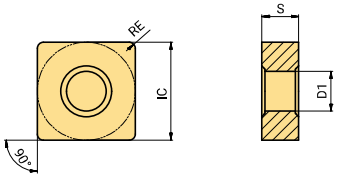
(mm)

Product code	IC	S	D1
SN_1204_	12.70	4.76	5.16
SN_1506_	15.875	6.35	6.35
SN_1906_	19.05	6.35	7.94

Inserts		Product code	RE (mm)	Recommanded parameters		Machining conditions: ● Good Conditions ◖◗ General Conditions ✱ Bad Conditions															
						●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
						P						M				K			N	S	
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Finishing		**SNMG 120404E-PB1**	0.40	0.05–0.15	0.26–3.20	●	●	●	○	○											
		120408E-PB1	0.80	0.10–0.30	0.52–3.20	●	●	○	●	○											
		120412E-PB1	1.20	0.15–0.45	0.78–3.20			●	●	○											
		**SNMG 120404E-MB2**	0.40	0.05–0.15	0.26–3.20							●	●		●						●
		120408E-MB2	0.80	0.10–0.30	0.52–3.20							●	●		●						●
		120412E-MB2	1.20	0.15–0.45	0.78–3.20							●	●		●						●
Semi-finishing		**SNMG 120404E-SL3**	0.40	0.12–0.25	0.60–3.00										●					●	●
		120408E-SL3	0.80	0.15–0.30	0.80–3.00										●					●	●
		120412E-SL3	1.20	0.18–0.35	1.00–3.00										●					●	●
		**SNMG 120404E-PC3**	0.40	0.07–0.20	0.34–3.80	●	●		○												
		120408E-PC3	0.80	0.14–0.40	0.68–3.80	●	●		●												
		120412E-PC3	1.20	0.20–0.60	1.02–3.80	●	●		○												
		**SNMG 120408E-SC3**	0.80	0.15–0.44	0.80–4.20							●	●		●					●	●
		120412E-SC3	1.20	0.23–0.66	1.20–4.20							●	●		●					●	●
		150612E-SC3	1.20	0.23–0.66	1.20–5.20							●	●		●					●	●
		150616E-SC3	1.60	0.30–0.88	1.60–5.20							●	●		●					●	●
		190612E-SC3	1.20	0.23–0.66	1.20–6.30							●	●		●					●	●
		**SNMG 120404E-MC3**	0.40	0.08–0.22	0.32–4.20							●	●		●						
		120408E-MC3	0.80	0.15–0.44	0.64–4.20							●	●		●						
		120412E-MC3	1.20	0.23–0.66	0.96–4.20							●	●		●						
		150612E-MC3	1.20	0.23–0.66	0.96–5.20							●	●		●						
		150616E-MC3	1.60	0.30–0.88	1.28–5.20							●	●		●						
		190612E-MC3	1.20	0.23–0.66	0.96–6.30							●	●		●						
		190616E-MC3	1.60	0.30–0.88	1.28–6.30							●	●		●						

● : Standard stock ○ : Made-to-Order

Negative 90° (S)



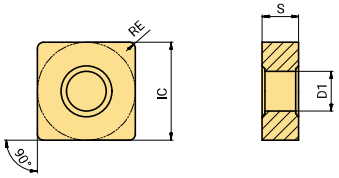
(mm)

Product code	IC	S	D1
SN_1204_	12.70	4.76	5.16
SN_1506_	15.875	6.35	6.35
SN_1906_	19.05	6.35	7.94

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
		Machining conditions				●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●	●
Medium		**SNMG 120404E-PD3**	0.40	0.08–0.22	0.40–4.20	●	●		●	○											
		120408E-PD3	0.80	0.15–0.44	0.80–4.20	●	●	○	●	○											
		120412E-PD3	1.20	0.23–0.66	1.20–4.20	●	●	○	○	○											
		190608E-PD3	0.80	0.15–0.44	0.80–6.30			○	○	○	●										
		**SNMG 120404E-M3T**	0.40	0.20–0.40	1.00–4.00	●	●														
		120408E-M3T	0.80	0.20–0.40	1.00–4.00	●	●														
		**SNMG 120408E-UC4**	0.80	0.15–0.48	0.80–4.50			●	●	●											
		120412E-UC4	1.20	0.23–0.72	1.20–4.50			●	●	●											
		150612E-UC4	1.20	0.23–0.72	1.20–5.50			○	●	●											
		**SNMG 120404E-PC4**	0.40	0.08–0.22	0.40–4.20	●	●		○								●	●			
		120408E-PC4	0.80	0.15–0.44	0.80–4.20	●	●	○	○	○						●	●	●			
		120412E-PC4	1.20	0.23–0.66	1.20–4.20	●	●	○	○	●						●	●	●			
Roughing		**SNMG 120408E-MC4**	0.80	0.20–0.60	1.20–6.40							●	●		●						●
		120412E-MC4	1.20	0.30–0.90	1.80–6.40							●	●		●						●
		150612E-MC4	1.20	0.30–0.90	1.80–7.90							●	●		●						
		150616E-MC4	1.60	0.40–1.20	2.40–7.90							●	●		●						
		190612E-MC4	1.20	0.30–0.90	1.80–9.50							●	●		●						
		190616E-MC4	1.60	0.40–1.20	2.40–9.50							●	●		●						●

● : Standard stock ○ : Made-to-Order

Negative 90° (S)



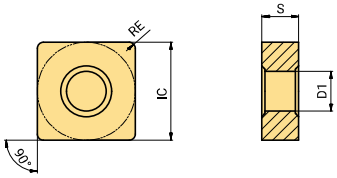
(mm)

Product code	IC	S	D1
SN_0903_	9.525	3.18	3.81
SN_1204_	12.70	4.76	5.16
SN_1506_	15.875	6.35	6.35
SN_1906_	19.05	6.35	7.94

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions ● Good Conditions ◖◗ General Conditions ✱ Bad Conditions														
						●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
						P						M				K			N	S	
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Roughing		**SNMG 090304E-KC4**	0.40	0.09–0.24	0.48–3.80												●	●			
		090308E-KC4	0.80	0.18–0.48	0.96–3.80												●	●			
		120404E-KC4	0.40	0.09–0.24	0.48–5.10												●	●			
		120408E-KC4	0.80	0.18–0.48	0.96–5.10												●	●			
		120412E-KC4	1.20	0.26–0.72	1.44–5.10												●	●			
		150608E-KC4	0.80	0.18–0.48	0.96–6.40												●	●			
		150612E-KC4	1.20	0.26–0.72	1.44–6.40												●	●			
		150616E-KC4	1.60	0.35–0.96	1.92–6.40												●	●			
		190608E-KC4	0.80	0.18–0.48	0.96–7.60												●	●			
		190612E-KC4	1.20	0.26–0.72	1.44–7.60												●	●			
		190616E-KC4	1.60	0.35–0.96	1.92–7.60												●	●			
		190624E-KC4	2.40	0.53–1.44	2.88–7.60												○	○			
		**SNMG 150412E-PD5**	1.20	1.80–6.40	0.30–0.90			○	○	●											
		150608E-PD5	0.80	0.20–0.60	1.20–7.90			●	●	○											
		150612E-PD5	1.20	0.30–0.90	1.80–7.90			○	○	●	●										
		150616E-PD5	1.60	0.40–1.20	2.40–7.90			○	○	○											
		190612E-PD5	1.20	0.30–0.90	1.80–9.50			○	●	●	●										
		190616E-PD5	1.60	0.40–1.20	2.40–9.50			●	●	○	●										
		**SNMA 120408E-KD5**	0.80	0.20–0.60	1.20–6.40											●	●	●			
		120412E-KD5	1.20	0.30–0.90	1.80–6.40											●	●	●			
		120416E-KD5	1.60	0.40–1.20	2.40–6.40											●	●	●			
		150612E-KD5	1.20	0.30–0.90	1.80–7.90												●	●			
		150616E-KD5	1.60	0.40–1.20	2.40–7.90												●	●			
		190612E-KD5	1.20	0.30–0.90	1.80–9.50												●	●			
		190616E-KD5	1.60	0.40–1.20	2.40–9.50												●	●			

● : Standard stock ○ : Made-to-Order

Negative 90° (S)



(mm)

Product code	IC	S	D1
SN_1204_	12.70	4.76	5.16
SN_1506_	15.875	6.35	6.35
SN_1906_	19.05	6.35	7.94
SN_2507_	25.40	7.94	9.12
SN_2509_	25.40	7.94	9.12
SN_3109_	31.75	9.52	9.45

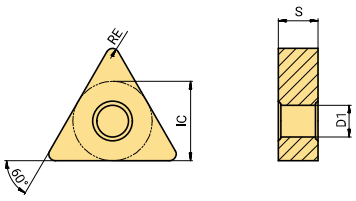
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ◖◗ General Conditions ✱ Bad Conditions														
						●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
						P						M				K			N	S	
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Heavy roughing		**SNMM 120408E-PD8**	0.80	0.16–0.32	1.44–5.10			○	○	○											
		120412E-PD8	1.20	0.24–0.48	2.16–5.10			○	○	○											
		150612E-PD8	1.20	0.24–0.48	2.16–6.40			○	○	○	●										
		150616E-PD8	1.60	0.32–0.64	2.88–6.40			○	○	○											
		190612E-PD8	1.20	0.24–0.48	2.16–7.60			○	○	●	●										
		190616E-PD8	1.60	0.32–0.64	2.88–7.60			●	●	●	●										
		190624E-PD8	2.40	0.48–0.96	4.32–7.60			○	●	○											
		250724E-PD8	2.40	0.48–0.96	4.32–10.20			○	○	○											
		250924E-PD8	2.40	0.48–0.96	4.32–10.20			○	●	●											
		**SNMM 190612S-PC9**	1.20	0.26–0.60	2.40–9.50			○	○	●											
		190616S-PC9	1.60	0.35–0.80	3.20–9.50			○	●	○											
		190624S-PC9	2.40	0.53–1.20	4.80–9.50			○	●	●											
		250724S-PC9	2.40	0.53–1.20	4.80–12.70			○	○	○											
		250924S-PC9	2.40	0.53–1.20	4.80–12.70			○	●	●											
		SNMH 310924S-PC9	2.40	0.53–1.20	4.80–15.90				○												
		**SNMM 190612S-PD9**	1.20	0.30–0.72	2.64–11.40			○	○	○											
		190616S-PD9	1.60	0.40–0.96	3.52–11.40			○	○	○											
		190624S-PD9	2.40	0.60–1.44	5.28–11.40			○	○	○											
		250724S-PD9	2.40	0.60–1.44	5.28–15.20			○	●	○	●										
		250924S-PD9	2.40	0.60–1.44	5.28–15.20			○	●	●											
		SNMX 310924S-PD9	2.40	0.60–1.44	5.28–19.10				○		●										

● : Standard stock ○ : Made-to-Order

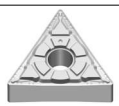
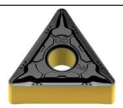
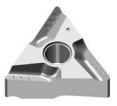
Negative 60° (T)

(mm)

Product code	IC	S	D1
TN_1604_	9.525	4.76	3.81

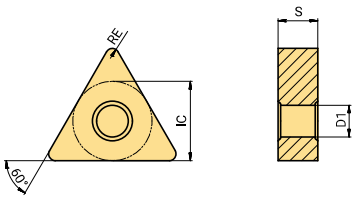


● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Finishing		TNGG 160401FP-UF	0.10	0.03–0.11	0.30–2.50										●						
		160402FP-UF	0.20	0.03–0.11	0.30–2.50										●						
		160404FP-UF	0.40	0.03–0.11	0.30–2.50										●						
		TNMG 160404-F1T	0.40	0.05–0.15	0.50–2.50	●	●														
		160408-F1T	0.80	0.05–0.15	0.50–2.50	●	●														
		TNMG 160404-F1Y	0.40	0.08–0.20	0.30–1.50	●	●														
		TNMG 160408-F1Y	0.80	0.08–0.20	0.30–1.50	●	●														
		TNMG 160402E-PA1	0.20	0.04–0.25	0.20–1.50	●	●	○	○												
		160404E-PA1	0.40	0.04–0.28	0.20–1.50	●	●	●	●												
		160408E-PA1	0.80	0.05–0.35	0.20–1.50	●	●	●	○												
		160412E-PA1	1.20	0.05–0.42	0.20–1.50	●	●		○												
		TNMG 160404E-PB1	0.40	0.05–0.15	0.26–3.10	●	●	○	●	○					●						
		160408E-PB1	0.80	0.10–0.30	0.52–3.10	●	●	○	●	○											
		160412E-PB1	1.20	0.15–0.45	0.78–3.10	●	●	○	○	○											
		TNMG 160404E-SC1	0.40	0.07–0.18	0.20–0.80									●						●	
		160408E-SC1	0.80	0.10–0.25	0.20–0.80									●						●	
		TNMG 160404E-MB2	0.40	0.05–0.15	0.26–3.10							●	●	●	●						●
		160408E-MB2	0.80	0.10–0.30	0.52–3.10							●	●	●	●						●
Semi-finishing		TNMG 160404E-SL3	0.40	0.12–0.25	0.60–3.00									●						●	●
		160408E-SL3	0.80	0.15–0.30	0.80–3.00									●						●	●
		160412E-SL3	1.20	0.18–0.30	1.00–3.00									●						●	●
		TNMG 160404-F2K	0.40	0.08–0.20	0.50–2.00	●	●														
		160408-F2K	0.80	0.10–0.25	0.50–2.00	●	●														
		TNMG 160404R-M1T	0.40	0.10–0.30	0.10–0.30	●	●														
		160404L-M1T	0.40	0.10–0.30	0.10–0.30	●	●														

● : Standard stock ○ : Made-to-Order

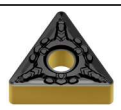
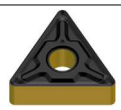
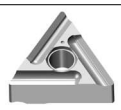
Negative 60° (T)



(mm)

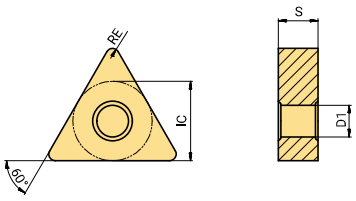
Product code	IC	S	D1
TN_1604_	9.525	4.76	3.81
TN_2204_	12.70	4.76	5.16

● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Semi-finishing		**TNMG 160404E-PB3**	0.40	0.06–0.18	0.30–3.30	●	●		●	●											
		160408E-PB3	0.80	0.12–0.36	0.60–3.30	●	●	○	○	○											
		160412E-PB3	1.20	0.18–0.54	0.90–3.30	●	●	○	○	○											
		**TNMG 160404E-PC3**	0.40	0.07–0.20	0.34–3.70	●	●		●	○											
		160408E-PC3	0.80	0.14–0.40	0.68–3.70	●	●		○	○											
		160412E-PC3	1.20	0.20–0.60	1.02–3.70	●	●		●												
		**TNMG 160404E-SC3**	0.40	0.08–0.22	0.40–4.10							●	●	●						●	●
		160408E-SC3	0.80	0.15–0.44	0.80–4.10							●	●	●						●	●
		160412E-SC3	1.20	0.23–0.66	1.20–4.10							●	●	●						●	●
		**TNMG 160404E-MC3**	0.40	0.08–0.22	0.32–4.10							●	●	●	●						
		160408E-MC3	0.80	0.15–0.44	0.64–4.10							●	●	●	●						
		160412E-MC3	1.20	0.23–0.66	0.96–4.10							●	●	●	●						
		220408E-MC3	0.80	0.15–0.44	0.64–4.90							●	●	●	●						●
		220412E-MC3	1.20	0.23–0.66	0.96–4.90							●	●	●	●						
Medium		**TNMG 160404E-PD3**	0.40	0.08–0.22	0.40–4.10	●	●	○	●	●											
		160408E-PD3	0.80	0.15–0.44	0.80–4.10	●	●	●	●	○	●										
		160412E-PD3	1.20	0.23–0.66	1.20–4.10	●	●	●	●	●	●										
		**TNMG 160404-M3T**	0.40	0.20–0.40	1.00–4.00	●	●														
		160408-M3T	0.80	0.20–0.40	1.00–4.00	●	●														
		**TNMG 160408E-UC4**	0.80	0.15–0.48	0.80–4.50			●	●	●	●										
		160412E-UC4	1.20	0.23–0.72	1.20–4.50			●	●	●											
		**TNMG 160404E-PC4**	0.40	0.08–0.22	0.40–4.10	●	●		○												
		160408E-PC4	0.80	0.15–0.44	0.80–4.10	●	●	○	●												
		160412E-PC4	1.20	0.23–0.66	1.20–4.10			●	●												
		220412E-PC4	1.20	0.23–0.66	1.20–4.90				○	●											
		**TNMG 160404R-M2T**	0.40	0.10–0.30	0.70–3.50	●	●														
		160404L-M2T	0.40	0.10–0.30	0.70–3.50	●	●														

● : Standard stock ○ : Made-to-Order

Negative 60° (T)



(mm)

Product code	IC	S	D1
TN_1103_	6.35	3.18	2.26
TN_1604_	9.525	4.76	3.81
TN_2204_	12.70	4.76	5.16

● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

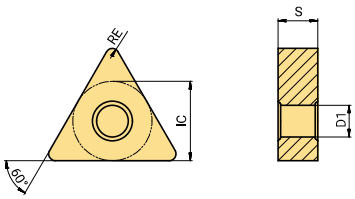
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Medium		**TNMG 160404R-PL5**	0.40	0.08–0.22	0.40–4.10	●	●		●	●											
		160404L-PL5	0.80	0.15–0.44	0.80–4.10	●	●	○	○	●											
		160408R-PL5	0.40	0.08–0.22	0.40–4.10	●	●	○	●	○											
		160408L-PL5	0.80	0.15–0.44	0.80–4.10	●	●	●	○	●											
Roughing		**TNMG 160408E-MC4**	0.80	0.20–0.60	1.20–5.80							●	●	●	●						●
		160412E-MC4	1.20	0.30–0.90	1.80–5.80							●	●	●	●						●
		220408E-MC4	0.80	0.20–0.60	1.20–6.60							●	●	●							
		220412E-MC4	1.20	0.30–0.90	1.80–6.60							●	●	●							
		**TNMG 110304E-KC4**	0.40	0.09–0.24	0.48–3.30												●	●			
		160404E-KC4	0.40	0.09–0.24	0.48–4.90												●	●			
		160408E-KC4	0.80	0.18–0.48	0.96–4.90											●	●	●			
		160412E-KC4	1.20	0.26–0.72	1.44–4.90											●	●	●			
		160416E-KC4	1.60	0.35–0.96	1.92–4.90												●	●			
		220412E-KC4	1.20	0.26–0.72	1.44–6.00												●	●			
		220416E-KC4	1.60	0.35–0.96	1.92–6.00												●	●			
		**TNMG 160408E-PD5**	0.80	0.20–0.60	1.20–5.80			○	○	○											
		160412E-PD5	1.20	0.30–0.90	1.80–5.80			○	○	○	●										
		220408E-PD5	0.80	0.20–0.60	1.20–7.70			○	●	○											
		220412E-PD5	1.20	0.30–0.90	1.80–7.70			○	○	●											
		220416E-PD5	1.60	0.40–1.20	2.40–7.70			○	●	●											
		**TNMA 160404E-KD5**	0.40	0.10–0.30	0.60–5.80												●	●			
		160408E-KD5	0.80	0.20–0.60	1.20–5.80											●	●	●			
		160412E-KD5	1.20	0.30–0.90	1.80–5.80											●	●	●			
		160416E-KD5	1.60	0.40–1.20	2.40–5.80											●	●	●			
		220408E-KD5	0.80	0.20–0.60	1.20–7.70												●	●			
		220412E-KD5	1.20	0.30–0.90	1.80–7.70												●	●			
		220416E-KD5	1.60	0.40–1.20	2.40–7.70												●	●			

● : Standard stock ○ : Made-to-Order

Negative 60° (T)

(mm)

Product code	IC	S	D1
TN_1604_	9.525	4.76	3.81
TN_2204_	12.70	4.76	5.16



● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

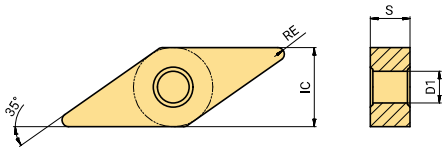
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
				Machining conditions		●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
Heavy roughing		**TNMM 160408E-PD8**	0.80	0.16–0.32	1.44–4.90			○	○	○											
		160412E-PD8	1.20	0.24–0.48	2.16–4.90			○	○	○											
		220408E-PD8	0.80	0.16–0.32	1.44–6.00			○	○	○											
		220412E-PD8	1.20	0.24–0.48	2.16–6.00			○	○	○											
		220416E-PD8	1.60	0.32–0.64	2.88–6.00			○	○	○											
Finishing		**TNGG 160402FR-F**	0.20	0.08–0.20	0.50–2.30										●						
		160402FL-F	0.20	0.08–0.20	0.50–2.30										●						
		160404FR-F	0.40	0.08–0.20	0.50–2.30										●						
		160404FL-F	0.40	0.08–0.20	0.50–2.30										●						
Semi-finishing--Roughing		**TNGG 160404R-H**	0.40	0.22–0.38	1.20–3.80										●						
		160404L-H	0.40	0.22–0.38	1.20–3.80										●						
		160408R-H	0.80	0.22–0.38	1.20–3.80										●						
		160408L-H	0.80	0.22–0.38	1.20–3.80										●						

● : Standard stock ○ : Made-to-Order

Negative 35° (V)

(mm)

Product code	IC	S	D1
VN_1604_	9.525	4.76	3.81



● Good Conditions ◐ General Conditions ✱ Bad Conditions

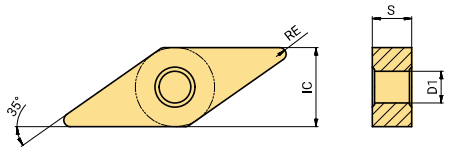
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Finishing		VNGG 160401FP-UF	0.10	0.02–0.10	0.50–2.00										●						
		160402FP-UF	0.20	0.02–0.10	0.50–2.00										●						
		160404FP-UF	0.40	0.02–0.10	0.50–2.00										●						
		VNMG 160402E-PA1	0.20	0.04–0.25	0.20–1.50	●	●	●	○												
		160404E-PA1	0.40	0.04–0.28	0.20–1.50	●	●	●	●												
		160408E-PA1	0.80	0.05–0.35	0.20–1.50	●	●	●	●												
		160412E-PA1	1.20	0.05–0.42	0.20–1.50	●	●														
		VNMG 160404E-PB1	0.40	0.05–0.15	0.26–2.10	●	●	●	●	○											
		160408E-PB1	0.80	0.10–0.30	0.52–2.10	●	●	●	●	●											
		VNMG 160404E-SC1	0.40	0.10–0.25	0.20–0.80									●						●	
		160408E-SC1	0.80	0.15–0.30	0.20–0.80									●						●	
		VNMG 160404E-MB2	0.40	0.05–0.15	0.26–2.10							●	●	●	●						●
		160408E-MB2	0.80	0.10–0.30	0.52–2.10							●	●	●	●						●
Semi-finishing		VNMG 160404E-SL3	0.40	0.10–0.20	0.60–2.50									●						●	●
		160408E-SL3	0.80	0.12–0.25	0.80–2.50									●						●	●
		VNMG 160404E-BS	0.40	0.07–0.16	0.30–2.00	●	●	●	●	○											
		160408E-BS	0.80	0.08–0.20	0.30–2.00	●	●	●	●	●											
		160412E-BS	1.20	0.09–0.22	0.30–2.00	●	○	○	●												
		VNMG 160404-F2K	0.40	0.08–0.20	0.50–2.00	●	●														
		160408-F2K	0.80	0.10–0.25	0.50–2.00	●	●														
		VNMG 160404E-PB3	0.40	0.06–0.18	0.30–3.10	●	●	●	●	○											
		160408E-PB3	0.80	0.12–0.36	0.60–3.10	●	●	●	●	●											
		160412E-PB3	1.20	0.18–0.54	0.90–3.10	●	●	○	●	○											
		VNMG 160404E-PC3	0.40	0.07–0.20	0.34–3.30	●	●		●												
		160408E-PC3	0.80	0.14–0.40	0.68–3.30	●	●		●	○											
		160412E-PC3	1.20	0.20–0.60	1.02–3.30	●	●		○												
		VNMG 160404E-SC3	0.40	0.08–0.22	0.40–3.30							●	●	●						●	●
		160408E-SC3	0.80	0.15–0.44	0.80–3.30							●	●	●						●	●
		160412E-SC3	1.20	0.23–0.66	1.20–3.30							●	●	●						●	●
		VNMG 160404E-MC3	0.40	0.08–0.22	0.32–3.30							●	●	●	●						
		160408E-MC3	0.80	0.15–0.44	0.64–3.30							●	●	●	●						

● : Standard stock ○ : Made-to-Order

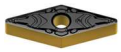
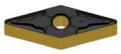
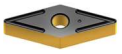
Negative 35° (V)

(mm)

Product code	IC	S	D1
VN_12T3 _	7.15	3.97	3.81
VN_1604_	9.525	4.76	3.81



● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

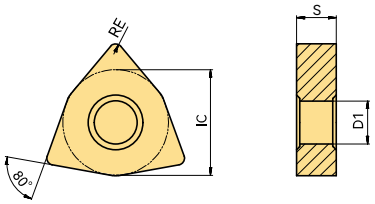
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
				Machining conditions		●	●	●	◖◗	✱	✱	●	◖◗	◖◗	◖◗	●	◖◗	✱	●	●	●
Medium		**VNMG 12T304E-PD3**	0.40	0.08–0.22	0.40–2.50				●	○											
		12T308E-PD3	0.80	0.15–0.44	0.80–2.50				●	○											
		160404E-PD3	0.40	0.08–0.22	0.40–3.30	●	●		●	○											
		160408E-PD3	0.80	0.15–0.44	0.80–3.30	●	●	○	●	○	●										
		160412E-PD3	1.20	0.23–0.66	1.20–3.30	●	●	●	●	○											
		**VNMG 160404-M3T**	0.40	0.20–0.40	1.00–4.00	●	●														
		160408-M3T	0.80	0.20–0.40	1.00–4.00	●	●														
		**VNMG 160408E-UC4**	0.80	0.15–0.48	0.80–4.50			●	●	●	●			●	○		○	○			
		160412E-UC4	1.20	0.23–0.72	1.20–4.50			●	●	●											
		**VNMG 160404E-PC4**	0.40	0.08–0.22	0.40–3.30	●	●		○								●	●			
		160408E-PC4	0.80	0.15–0.44	0.80–3.30	●	●	○	○								●	●			
		160412E-PC4	1.20	0.23–0.66	1.20–3.30	●	●	○	○								●	●			
Roughing		**VNMG 160404E-KC4**	0.40	0.09–0.24	0.48–3.30												●	●			
		160408E-KC4	0.80	0.18–0.48	0.96–3.30												●	●			
		160412E-KC4	1.20	0.26–0.72	1.44–3.30												●	●			

● : Standard stock ○ : Made-to-Order

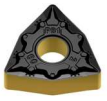
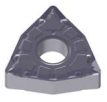
Negative 80° (W)

(mm)

Product code	IC	S	D1
WN_0604_	9.525	4.76	3.81
WN_0804_	12.70	4.76	5.16



● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

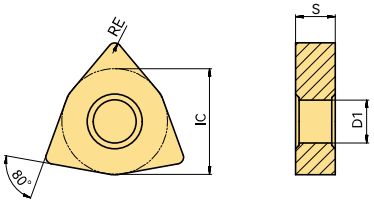
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Finishing		**WNMG 080404-F1T**	0.40	0.05–0.15	0.50–2.50	●	●														
		080408-F1T	0.80	0.05–0.15	0.50–2.50	●	●														
		**WNMG 080404-F1Y**	0.40	0.08–0.20	0.30–1.50	●	●														
		080408-F1Y	0.80	0.08–0.20	0.30–1.50	●	●														
		**WNMG 080402E-PA1**	0.20	0.04–0.25	0.20–1.50	●	●	○	○												
		080404E-PA1	0.40	0.04–0.28	0.20–1.50	●	●	●	●												
		080408E-PA1	0.80	0.05–0.35	0.20–1.50	●	●	●	●												
		080412E-PA1	1.20	0.05–0.42	0.20–1.50	●	●		○												
		**WNMG 080404E-PB1**	0.40	0.05–0.15	0.26–2.20	●	●	●	●	●											
		080408E-PB1	0.80	0.10–0.30	0.52–2.20	●	●	●	●	○											
		080412E-PB1	1.20	0.15–0.45	0.78–2.20	●	●	○	●	○											
		**WNMG 080404E-SC1**	0.40	0.10–0.25	0.20–0.80								●						●		●
		080408E-SC1	0.80	0.15–0.30	0.20–0.80								●						●		●
		**WNMG 080404E-MB2**	0.40	0.05–0.15	0.26–2.20						●	●								●	●
		080408E-MB2	0.80	0.10–0.30	0.52–2.20						●	●								●	●

● : Standard stock ○ : Made-to-Order

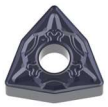
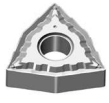
Negative 80° (W)

(mm)

Product code	IC	S	D1
WN_0604_	9.525	4.76	3.81
WN_0804_	12.70	4.76	5.16



● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

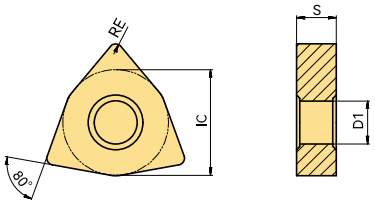
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Semi-finishing		**WNMG 060404E-SL3**	0.40	0.12–0.25	0.60–2.50								●						●	●	
		060408E-SL3	0.80	0.15–0.25	0.80–2.50								●						●	●	
		080404E-SL3	0.40	0.12–0.25	0.60–3.00								●						●	●	
		080408E-SL3	0.80	0.15–0.25	0.80–3.00								●						●	●	
		080412E-SL3	1.20	0.18–0.30	1.00–3.00								●						●	●	
		**WNMG 080404-F2K**	0.40	0.12–0.24	0.50–2.50	●	●														
		080408-F2K	0.80	0.12–0.24	0.50–2.50	●	●														
		**WNMG 080404E-PB3**	0.40	0.06–0.18	0.30–2.30	●	●		●	○											
		080408E-PB3	0.80	0.12–0.36	0.60–2.30	●	●	●	●	●											
		080412E-PB3	1.20	0.18–0.54	0.90–2.30	●	●	●	○	●											
		**WNMG 080404E-PC3**	0.40	0.07–0.20	0.34–2.60	●	●		○												
		080408E-PC3	0.80	0.14–0.40	0.68–2.60	●	●	●	●	○											●
		080412E-PC3	1.20	0.20–0.60	1.02–2.60	●	●	○	●												●
		**WNMG 080404E-SC3**	0.40	0.08–0.22	0.40–2.90						●	●	●						●	●	
		080408E-SC3	0.80	0.15–0.44	0.80–2.90						●	●	●						●	●	
		080412E-SC3	1.20	0.23–0.66	1.20–2.90						●	●	●						●	●	
		**WNMG 060408E-MC3**	0.80	0.15–0.44	0.64–2.10						●	●	●								
		060412E-MC3	1.20	0.23–0.66	0.96–2.10						●	●	●								
		080404E-MC3	0.40	0.08–0.22	0.32–2.90						●	●	●								
		080408E-MC3	0.80	0.15–0.44	0.64–2.90						●	●	●	●						●	
		080412E-MC3	1.20	0.23–0.66	0.96–2.90						●	●	●								
Medium		**WNMG 060408E-PD3**	0.80	0.15–0.44	0.80–2.10			●	●	●											
		080404E-PD3	0.40	0.08–0.22	0.40–2.90	●	●	●	●	●											
		080408E-PD3	0.80	0.15–0.44	0.80–2.90	●	●	●	●	●											
		080412E-PD3	1.20	0.23–0.66	1.20–2.90	●	●	●	●	●											
		**WNMG 080404-M3T**	0.40	0.20–0.40	1.00–4.00	●	●														
		080408-M3T	0.80	0.20–0.40	1.00–4.00	●	●														

● : Standard stock ○ : Made-to-Order

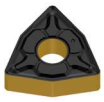
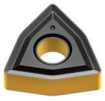
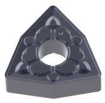
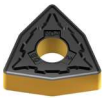
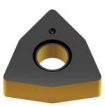
Negative 80° (W)

(mm)

Product code	IC	S	D1
WN_0604_	9.525	4.76	3.81
WN_0804_	12.70	4.76	5.16



● Good Conditions ◖◗ General Conditions ✱ Bad Conditions

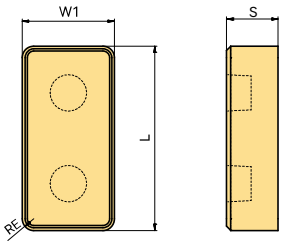
	Inserts	Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP010S	S AP100S
Medium		WNMG 060412E-UC4	1.20	0.23–0.72	1.20–3.20			●	●	●											
		080404E-UC4	0.40	0.08–0.24	0.40–3.20			●	●	●											
		080408E-UC4	0.80	0.15–0.48	0.80–3.20			●	●	●											
		080412E-UC4	1.20	0.23–0.72	1.20–3.20			●	●	●											
		WNMG 080404E-PC4	0.40	0.08–0.22	0.40–2.90	●	●		○							●	●				
		080408E-PC4	0.80	0.15–0.44	0.80–2.90	●	●	○	●							●	●				
		080412E-PC4	1.20	0.23–0.66	1.20–2.90	●	●	●	●	○						●	●				
		WNMG 080404R-PL5	0.40	0.20–0.50	0.40–4.00				○	○											●
		080404L-PL5	0.40	0.20–0.50	0.40–4.00				○	○											
		080408R-PL5	0.80	0.20–0.50	0.40–5.00				○	○			●								
		080408L-PL5	0.80	0.20–0.50	0.40–5.00				○	●			●								
Roughing		WNMG 060408E-MC4	0.80	0.20–0.60	1.20–3.30						○	○	○								
		060412E-MC4	1.20	0.30–0.90	1.80–3.30						●	●	●								
		080408E-MC4	0.80	0.20–0.60	1.20–4.30						●	●	●							●	
		080412E-MC4	1.20	0.30–0.90	1.80–4.30						●	●	●							●	
		WNMG 060404E-KC4	0.40	0.09–0.24	0.48–2.60											●	●				
		060408E-KC4	0.80	0.18–0.48	0.96–2.60											●	●				
		080404E-KC4	0.40	0.09–0.24	0.48–3.50											●	●				●
		080408E-KC4	0.80	0.18–0.48	0.96–3.50										●	●	●				●
		080412E-KC4	1.20	0.26–0.72	1.44–3.50										●	●	●				
		080416E-KC4	1.60	0.35–0.96	1.92–3.50											●	●				●
		WNMG 080408E-PD5	0.80	0.20–0.60	1.20–4.30			○	●	○											●
		080412E-PD5	1.20	0.30–0.90	1.80–4.30			●	●	●											
		WNMA 080404E-KD5	0.40	0.10–0.30	0.60–4.30											●	●				
		080408E-KD5	0.80	0.20–0.60	1.20–4.30										●	●	●				
		080412E-KD5	1.20	0.30–0.90	1.80–4.30										●	●	●				
		080416E-KD5	1.60	0.40–1.20	2.40–4.30											●	●				

● : Standard stock ○ : Made-to-Order

Negative 90° (L)

(mm)

Product code	L	S	W1
LN_5014_	50.80	14.20	25.40



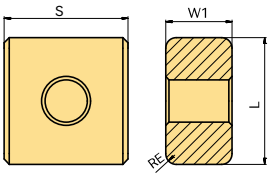
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●	●
						P				M				K			N	S	
						AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Heavy roughing		**LNMX 501432S-HE**	3.20	0.70–1.60	6.00–40.00				●										

Negative 90° (L)

Railway wheel reconditioning

(mm)

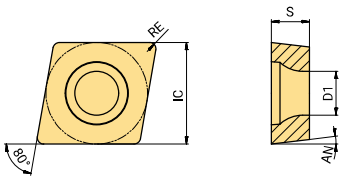
Product code	L	S	W1
LN_1919_	19.05	19.05	10
LN_3019_	30	19.05	12



Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●	●
						P				M				K			N	S	
						AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP010S	AP100S
Finishing		**LNMX 191940-AS**	4.00	0.70–1.20	2.00–10.00	○	○												
Medium		**LNMX 191940-AM**	4.00	0.70–1.20	2.00–10.00	●	●	●											
		LNMX 301940-AM	4.00	0.70–1.20	2.00–20.00	●	●	●											
Roughing		**LNMX 301940-AR**	4.00	0.70–1.20	2.00–20.00	●	●	●											

● : Standard stock ○ : Made-to-Order

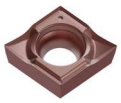
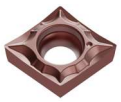
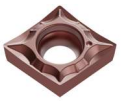
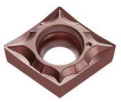
Turning Inserts Positive 80° (C)



(mm)

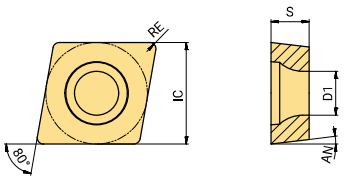
Product code	IC	S	D1	AN
CC_0602_	6.35	2.38	2.80	7°
CC_09T3_	9.525	3.97	4.40	7°
CC_1204_	12.688	4.76	5.50	7°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

	Inserts	Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
		Machining conditions				●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
Finishing		CCGT 060201FP-LF	<0.10	0.05–0.20	0.35–3.00									○	●					
		060202FP-LF	0.20	0.05–0.20	0.35–3.00									●	●					
		060204FP-LF	0.40	0.05–0.20	0.35–3.00									●	●					
		09T301FP-LF	<0.10	0.05–0.20	0.35–3.00									○	●					
		09T302FP-LF	0.20	0.05–0.20	0.35–3.00									○	●					
		09T304FP-LF	0.40	0.05–0.20	0.35–3.00									○	●					
		CCGT 060201FP-UF	0.10	0.02–0.15	0.10–1.40									○	●					
		060202FP-UF	0.20	0.02–0.15	0.10–1.40									●	●					
		060204FP-UF	0.40	0.03–0.20	0.10–1.40									●	●					
		09T301FP-UF	0.10	0.02–0.15	0.10–2.40									○	●					
		09T302FP-UF	0.20	0.02–0.15	0.10–2.40									○	●					
		09T304FP-UF	0.40	0.03–0.20	0.10–2.40									○	●					
		CCGT 060201F-UF	0.10	0.02–0.15	0.10–1.40		○													
		060202F-UF	0.20	0.02–0.15	0.10–1.40		○													
		060204F-UF	0.40	0.03–0.20	0.10–1.40		●													
		09T301F-UF	0.10	0.02–0.15	0.10–2.40		○													
		09T302F-UF	0.20	0.02–0.15	0.10–2.40		○													
		09T304F-UF	0.40	0.03–0.20	0.10–2.40		○													
		09T308F-UF	0.80	0.03–0.25	0.10–2.40		○													
		CCGT 060201E-UF	0.10	0.02–0.15	0.10–1.40		○							●	●					●
		060202E-UF	0.20	0.02–0.15	0.10–1.40		●							●	●					●
		060204E-UF	0.40	0.03–0.20	0.10–1.40		●							●	●					●
		09T301E-UF	0.10	0.02–0.15	0.10–2.40		○							●	●					●
		09T302E-UF	0.20	0.02–0.15	0.10–2.40		●							●	●					●
		09T304E-UF	0.40	0.03–0.20	0.10–2.40		●							●	●					●
		09T308E-UF	0.80	0.03–0.25	0.10–2.40		●							●	●					●
Semi-finishing		CCGT 060204F-NC2	0.40	0.05–0.20	0.32–2.90														●	
		09T302F-NC2	0.20	0.02–0.10	0.16–4.40														●	
		09T304F-NC2	0.40	0.05–0.20	0.32–4.40														●	
		09T308F-NC2	0.80	0.10–0.40	0.64–4.40														●	
		120404F-NC2	0.40	0.05–0.20	0.32–5.80														●	
		120408F-NC2	0.80	0.10–0.40	0.64–5.80														●	

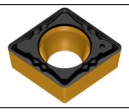
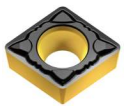
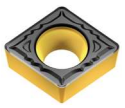
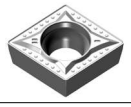
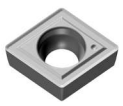
● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 80° (C)



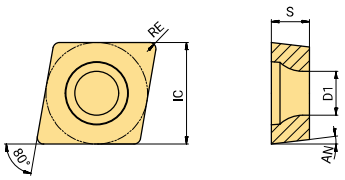
(mm)

Product code	IC	S	D1	AN
CC_0602_	6.35	2.38	2.80	7°
CC_09T3_	9.525	3.97	4.40	7°
CC_1204_	12.688	4.76	5.50	7°

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
						P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**CCMT 060202-F1T**	0.20	0.05–0.15	0.30–1.50	●	●													
		060204-F1T	0.40	0.05–0.15	0.30–1.50	●	●													
		09T304-F1T	0.40	0.10–0.25	0.60–1.50	●	●													
		09T308-F1T	0.80	0.10–0.25	0.60–1.50	●	●													
		**CCMT 060202E-PA1**	0.20	0.04–0.25	0.10–0.80	●	●	●	○											
		09T308E-PA1	0.80	0.05–0.30	0.10–0.80	●	●	●	●											
		**CCMT 060202E-PB1**	0.20	0.02–0.07	0.15–1.60	●	●		●	●		●	●	●						
		060204E-PB1	0.40	0.04–0.14	0.30–1.60	●	●		●	○		●	●	●						
		060208E-PB1	0.80	0.09–0.28	0.60–1.60	●	●		○	○		●	●	●						
		09T302E-PB1	0.20	0.02–0.07	0.15–2.40	●	●		●	●		●	●	●						
		09T304E-PB1	0.40	0.04–0.14	0.30–2.40	●	●		●	○		●	●	●						●
		09T308E-PB1	0.80	0.09–0.28	0.60–2.40	●	●	●	●	○		●	●	●						
		**CCMT 060202-F2K**	0.20	0.06–0.15	0.50–2.00	●	●													
		060204-F2K	0.40	0.08–0.20	0.50–2.00	●	●													
		09T302-F2K	0.20	0.06–0.15	0.50–2.00	●	●													
		09T304-F2K	0.40	0.08–0.20	0.50–2.00	●	●													
		09T308-F2K	0.80	0.10–0.25	0.50–2.00	●	●													
Semi-finishing		**CCMT 060204E-PC2**	0.40	0.05–0.16	0.35–1.90	●	●		●	●		●	●	●						●
		060208E-PC2	0.80	0.10–0.32	0.70–1.90	●	●		●	●		●	●	●						●
		09T304E-PC2	0.40	0.05–0.16	0.35–2.90	●	●	●	●	●		●	●	●						●
		09T308E-PC2	0.80	0.10–0.32	0.70–2.90	●	●	○	●	○		●	●	●						●
		09T312E-PC2	1.20	0.16–0.48	1.05–2.90				●	○		●	●	●						
		120404E-PC2	0.40	0.05–0.16	0.35–3.90	●	●		●	●		●	●	●						●
		120408E-PC2	0.80	0.10–0.32	0.70–3.90	●	●		●	○		●	●	●						●
		120412E-PC2	1.20	0.16–0.48	1.05–3.90	●	●		○	○		●	●	●						●
		**CCMT 09T304E-M2T**	0.40	0.10–0.25	0.70–3.50	●	●													
		09T308E-M2T	0.80	0.10–0.25	0.70–3.50	●	●													
		**CCMT 060204-M2Y**	0.40	0.08–0.25	0.50–2.50	●	●													

● : Standard stock ○ : Made-to-Order

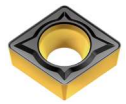
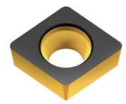
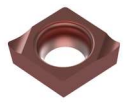
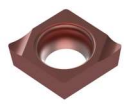
Turning Inserts Positive 80°(C)



(mm)

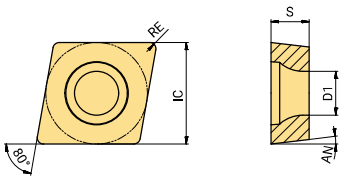
Product code	IC	S	D1	AN
CC_0301_	3.50	1.43	2.20	7°
CC_0401_	4.30	1.83	2.30	7°
CC_0602_	6.35	2.38	2.80	7°
CC_09T3_	9.525	3.97	4.40	7°
CC_1204_	12.688	4.76	5.50	7°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters		P						M				K			N	S
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Medium		**CCMT 060204E-KC2**	0.40	0.06–0.18	0.40–2.10	●	●		●	●		●	●	●			●	●		●
		060208E-KC2	0.80	0.12–0.36	0.80–2.10	●	●		●	●	●	●	●	●			●	●		
		09T304E-KC2	0.40	0.06–0.18	0.40–3.20	●	●	○	○	●	●	●	●	●		●	●	●		
		09T308E-KC2	0.80	0.12–0.36	0.80–3.20	●	●	○	●	○		●	●	●		●	●	●		
		120404E-KC2	0.40	0.06–0.18	0.40–4.30	●	●	●	○	○		●	●	●			●	●		
		120408E-KC2	0.80	0.12–0.36	0.80–4.30	●	●	●	●	●	●	●	●	●			●	●		
		120412E-KC2	1.20	0.18–0.54	1.20–4.30	●	●		○	○		●	●	●			●	●		
Roughing		**CCMW 060204E-KD5**	0.40	0.10–0.22	0.40–3.20												●	●		
		09T304E-KD5	0.40	0.10–0.22	0.40–4.80												●	●		
		09T308E-KD5	0.80	0.20–0.44	0.80–4.80												●	●		
		120404E-KD5	0.40	0.10–0.22	0.40–6.40												●	●		
		120408E-KD5	0.80	0.20–0.44	0.80–6.40												●	●		
		120412E-KD5	1.20	0.30–0.66	1.20–6.40												●	●		
Finishing		**CCET 0301003FR-F**	<0.03	0.01–0.05	0.10–0.30									○	●					
		0301003FL-F	<0.03	0.01–0.05	0.10–0.30									○	●					
		0301005FR-F	<0.05	0.01–0.05	0.10–0.30									○	●					
		0301005FL-F	<0.05	0.01–0.05	0.10–0.30									○	●					
		030101FR-F	<0.10	0.01–0.05	0.10–0.30		○							○	●					
		030101FL-F	<0.10	0.01–0.05	0.10–0.30		○							○	●					
		030102FR-F	<0.20	0.01–0.05	0.10–0.30		○							○	●					
		030102FL-F	<0.20	0.01–0.05	0.10–0.30		●							○	●					
		030104FR-F	<0.40	0.01–0.05	0.10–0.30		○							○	●					
		030104FL-F	<0.40	0.01–0.05	0.10–0.30		●							○	●					
		**CCET 0401003FR-F**	<0.03	0.01–0.06	0.10–0.40									○	●					
		0401003FL-F	<0.03	0.01–0.06	0.10–0.40									○	●					
		0401005FR-F	<0.05	0.01–0.06	0.10–0.40									○	●					
		0401005FL-F	<0.05	0.01–0.06	0.10–0.40									○	●					
		040101FR-F	<0.10	0.01–0.06	0.10–0.40		○							○	●					
		040101FL-F	<0.10	0.01–0.06	0.10–0.40		○							○	●					
		040102FR-F	<0.20	0.01–0.06	0.10–0.40		○							○	●					
		040102FL-F	<0.20	0.01–0.06	0.10–0.40		●							○	●					
		040104FR-F	<0.40	0.01–0.06	0.10–0.40		○							○	●					
		040104FL-F	<0.40	0.01–0.06	0.10–0.40		○							○	●					

● : Standard stock ○ : Made-to-Order

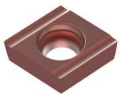
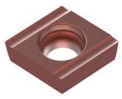
Turning Inserts Positive 80° (C)



(mm)

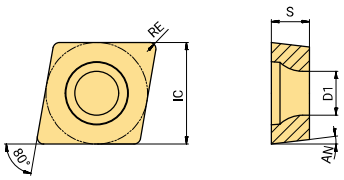
Product code	IC	S	D1	AN
CC_0602_	6.35	2.38	2.80	7°
CC_09T3_	9.525	3.97	4.40	7°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
				Machining conditions		●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
Low feed		**CCET 0602003FR-M**	<0.03	0.02–0.10	0.50–2.50									○	●					
		0602003FL-M	<0.03	0.02–0.10	0.50–2.50									○	●					
		0602005FR-M	<0.05	0.02–0.10	0.50–2.50									○	●					
		0602005FL-M	<0.05	0.02–0.10	0.50–2.50									○	●					
		060201FR-M	<0.10	0.02–0.10	0.50–2.50		○							○	●					
		060201FL-M	<0.10	0.02–0.10	0.50–2.50		○							○	●					
		060202FR-M	<0.20	0.02–0.10	0.50–2.50		○							○	●					
		060202FL-M	<0.20	0.02–0.10	0.50–2.50		●							○	●					
		060204FR-M	<0.40	0.01–0.10	0.50–2.50		○							○	●					
		060204FL-M	<0.40	0.01–0.10	0.50–2.50		○							○	●					
		**CCET 09T3003FR-M**	<0.03	0.02–0.10	0.50–4.00									○	●					
		09T3003FL-M	<0.03	0.02–0.10	0.50–4.00									○	●					
		09T3005FR-M	<0.05	0.02–0.10	0.50–4.00									○	●					
		09T3005FL-M	<0.05	0.02–0.10	0.50–4.00									○	●					
		09T301FR-M	<0.10	0.02–0.10	0.50–4.00		○							○	●					
		09T301FL-M	<0.10	0.02–0.10	0.50–4.00		○							○	●					
		09T302FR-M	<0.20	0.02–0.10	0.50–4.00		○							○	●					
		09T302FL-M	<0.20	0.02–0.10	0.50–4.00		○							○	●					
		09T304FR-M	<0.40	0.02–0.10	0.50–4.00		●							○	●					
		09T304FL-M	<0.40	0.02–0.10	0.50–4.00		○							○	●					

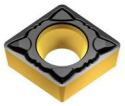
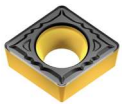
● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 80° (C)



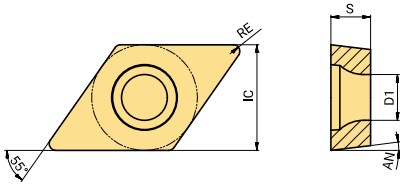
(mm)

Product code	IC	S	D1	AN
CP_0802 _	7.94	3.40	2.38	11°
CP_0903 _	9.513	3.18	4.40	11°

Inserts		Product code	RE (mm)	Recommanded parameters		Machining conditions: ● Good Conditions ⧓ General Conditions ✱ Bad Conditions														
						●	●	●	⧓	✱	✱	●	⧓	⧓	⧓	●	⧓	✱	●	●
						P						M				K			N	S
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**CPMT 080202E-PB1**	0.20	0.02–0.07	0.15–2.00	●	●	○												
		080204E-PB1	0.40	0.04–0.14	0.30–2.00	●	●	○												
		090302E-PB1	0.20	0.02–0.07	0.15–2.40	●	●	○												
		090304E-PB1	0.40	0.04–0.14	0.30–2.40	●	●	○												
		090308E-PB1	0.80	0.09–0.28	0.60–2.40	●	●	○												
Semi-finishing		**CPMT 090304E-PC2**	0.40	0.05–0.15	0.35–2.90	●	●	○												
		090308E-PC2	0.80	0.10–0.32	0.70–2.90	●	●	○												

● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 55° (D)



(mm)

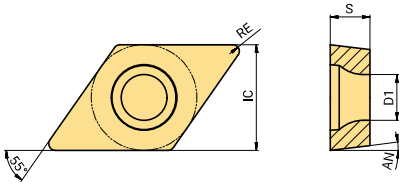
Product code	IC	S	D1	AN
DC_0702_	6.35	2.38	2.80	7°
DC_11T3_	9.525	3.97	4.40	7°

Machining conditions: ● Good Conditions ◐ General Conditions ✱ Bad Conditions

		Inserts	Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
							●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
Finishing			**DCGT 0702005FP-LF**	<0.05	0.05–0.15	0.35–3.00									○	●					
			070201FP-LF	<0.10	0.05–0.20	0.35–3.00									○	●					
			070202FP-LF	0.20	0.05–0.20	0.35–3.00									○	●					
			070204FP-LF	0.40	0.05–0.20	0.35–3.00									○	●					
			11T301FP-LF	<0.10	0.05–0.20	0.35–3.00									●	●					
			11T302FP-LF	0.20	0.05–0.20	0.35–3.00									●	●					
			11T304FP-LF	0.40	0.05–0.20	0.35–3.00									●	●					
			DCGT 0702005FP-UF	<0.05	0.02–0.15	0.10–1.40									○	●					
			070201FP-UF	0.10	0.02–0.15	0.10–1.40									○	●					
			070202FP-UF	0.20	0.02–0.15	0.10–1.40									○	●					
			070204FP-UF	0.40	0.03–0.20	0.10–1.40									○	●					
			11T301FP-UF	0.10	0.02–0.15	0.10–2.40									●	●					
			11T302FP-UF	0.20	0.02–0.15	0.10–2.40									●	●					
			11T304FP-UF	0.40	0.03–0.20	0.10–2.40									●	●					
			DCGT 070201F-UF	0.10	0.02–0.15	0.10–1.40		●													
			070202F-UF	0.20	0.02–0.15	0.10–1.40		○													
			070204F-UF	0.40	0.03–0.20	0.10–1.40		○													
			11T301F-UF	0.10	0.02–0.15	0.10–2.40		○													
			11T302F-UF	0.20	0.02–0.15	0.10–2.40		●													
			11T304F-UF	0.40	0.03–0.20	0.10–2.40		●													
			DCGT 070201E-UF	0.10	0.02–0.15	0.10–1.40		○							●	●					●
			070202E-UF	0.20	0.02–0.15	0.10–1.40		●							●	●					●
			070204E-UF	0.40	0.03–0.20	0.10–1.40		○							●	●					●
			11T301E-UF	0.10	0.02–0.15	0.10–2.40		○							●	●					●
			11T302E-UF	0.20	0.02–0.15	0.10–2.40		●							●	●					●
			11T304E-UF	0.40	0.03–0.20	0.10–2.40		●							●	●					●
Semi-finishing			**DCGT 070202F-NC2**	0.20	0.02–0.10	0.16–3.50														●	
			070204F-NC2	0.40	0.05–0.20	0.32–3.50														●	
			11T302F-NC2	0.20	0.02–0.10	0.16–5.20														●	
			11T304F-NC2	0.40	0.05–0.20	0.32–5.20														●	
			11T308F-NC2	0.80	0.10–0.40	0.64–5.20														●	
Finishing			**DCMT 070202-F1T**	0.20	0.07–0.20	0.40–1.50	●	●													
			070204-F1T	0.40	0.07–0.20	0.40–1.50	●	●													
			11T302-F1T	0.20	0.07–0.20	0.40–1.50	●	●													
			11T304-F1T	0.40	0.10–0.25	0.60–1.50	●	●													
			11T308-F1T	0.80	0.10–0.25	0.60–1.50	●	●													

● : Standard stock ○ : Made-to-Order

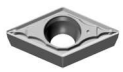
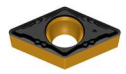
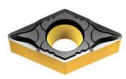
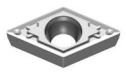
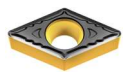
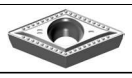
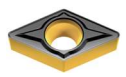
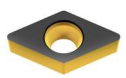
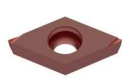
Turning Inserts Positive 55° (D)



(mm)

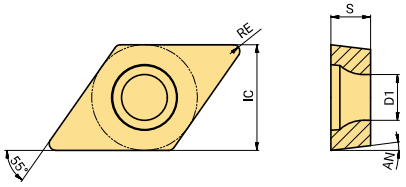
Product code	IC	S	D1	AN
DC_0702_	6.35	2.38	2.80	7°
DC_11T3_	9.525	3.97	4.40	7°

● Good Conditions ◐ General Conditions ✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters		P						M				K			N	S
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		DCMT 11T304-F1Y	0.40	0.08–0.25	0.50–2.00	●	●													
		DCMT 11T302E-PA1	0.20	0.04–0.25	0.10–1.00	●	●	●	○											
		11T304E-PA1	0.40	0.04–0.25	0.10–1.00	●	●	●	●											
		11T308E-PA1	0.80	0.05–0.30	0.10–1.00	●	●	●	●											
		DCMT 070202E-PB1	0.20	0.02–0.07	0.15–1.50	●	●		○	●		●	●	●						
		070204E-PB1	0.40	0.04–0.14	0.30–1.50	●	●		●	●		●	●	●						
		11T302E-PB1	0.20	0.02–0.07	0.15–2.30	●	●		○	○		●	●	●						
		11T304E-PB1	0.40	0.04–0.14	0.30–2.30	●	●	●	●	●		●	●	●						
		11T308E-PB1	0.80	0.09–0.28	0.60–2.30	●	●	●	○	●		●	●	●						
		DCMT 070202-F2K	0.20	0.06–0.15	0.50–2.00	●	●													
		070204-F2K	0.40	0.08–0.20	0.50–2.00	●	●													
		11T302-F2K	0.20	0.06–0.15	0.50–2.00	●	●													
		11T304-F2K	0.40	0.08–0.20	0.50–2.00	●	●													
		11T308-F2K	0.80	0.10–0.25	0.50–2.00	●	●													
Semi-finishing		DCMT 070204E-PC2	0.40	0.05–0.16	0.35–2.10	●	●		●	○		●	●	●						●
		070208E-PC2	0.80	0.10–0.32	0.70–2.10	●	●		●	●		●	●	●						●
		11T304E-PC2	0.40	0.05–0.16	0.35–3.10	●	●	●	●	●		●	●	●						●
		11T308E-PC2	0.80	0.10–0.32	0.70–3.10	●	●	○	●	●		●	●	●						●
		11T312E-PC2	1.20	0.16–0.48	1.05–3.10	●	●		●	○		●	●	●						●
		DCMT 11T304-M2T	0.40	0.10–0.25	0.50–3.00	●	●													
		11T308-M2T	0.80	0.10–0.25	0.50–3.00	●	●													
Medium		DCMT 070204E-KC2	0.40	0.06–0.18	0.40–2.30	●	●		●	○							●	●		
		070208E-KC2	0.80	0.12–0.36	0.80–2.30	●	●		○	○							●	●		
		11T304E-KC2	0.40	0.06–0.18	0.40–3.50	●	●		●	●							●	●		
		11T308E-KC2	0.80	0.12–0.36	0.80–3.50	●	●	○	●	●						●	●	●		
		11T312E-KC2	1.20	0.18–0.54	1.20–3.50			○	●	○							●	●		
Roughing		DCMW 070204E-KD5	0.40	0.06–0.18	0.40–3.90												●	●		
		070208E-KD5	0.80	0.12–0.36	0.80–3.90												●	●		
		11T304E-KD5	0.40	0.06–0.18	0.40–5.80												●	●		
		11T308E-KD5	0.80	0.12–0.36	0.80–5.80												●	●		
Finishing		DCET 0702003FR-F	<0.03	0.02–0.18	0.10–0.40									○	●					
		0702003FL-F	<0.03	0.02–0.18	0.10–0.40									○	●					
		0702005FR-F	<0.05	0.02–0.18	0.10–0.40									○	●					
		0702005FL-F	<0.05	0.02–0.18	0.10–0.40									○	●					
		070201FR-F	<0.10	0.02–0.18	0.10–0.40		●							○	●					

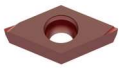
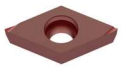
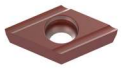
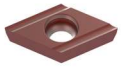
● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 55° (D)



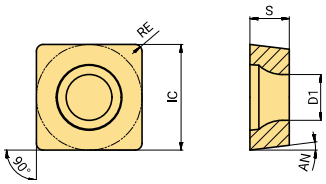
(mm)

Product code	IC	S	D1	AN
DC_0702_	6.35	2.38	2.80	7°
DC_11T3_	9.525	3.97	4.40	7°

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ⧓ General Conditions ✱ Bad Conditions													
						●	●	●	⧓	✱	✱	●	⧓	⧓	⧓	●	⧓	✱	●	●
						P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**DCET 070201FL-F**	<0.10	0.02–0.18	0.10–0.40		○							○	●					
		070202FR-F	<0.20	0.02–0.18	0.10–0.40		○							○	●					
		070202FL-F	<0.20	0.02–0.18	0.10–0.40		○							○	●					
		070204FR-F	<0.40	0.02–0.18	0.10–0.40		○							○	●					
		070204FL-F	<0.40	0.02–0.18	0.10–0.40		○							○	●					
		**DCET 11T3003FR-F**	<0.03	0.02–0.20	0.10–0.40									○	●					
		11T3003FL-F	<0.03	0.02–0.20	0.10–0.40									○	●					
		11T3005FR-F	<0.05	0.02–0.20	0.10–0.40									○	●					
		11T3005FL-F	<0.05	0.02–0.20	0.10–0.40									○	●					
		11T301FR-F	<0.10	0.02–0.20	0.10–0.40		○							○	●					
		11T301FL-F	<0.10	0.02–0.20	0.10–0.40		○							○	●					
		11T302FR-F	<0.20	0.02–0.20	0.10–0.40		●							○	●					
		11T302FL-F	<0.20	0.02–0.20	0.10–0.40		○							○	●					
		11T304FR-F	<0.40	0.02–0.20	0.10–0.40		●							○	●					
		11T304FL-F	<0.40	0.02–0.20	0.10–0.40		○							○	●					
Low feed		**DCET 0702003FR-M**	<0.03	0.01–0.08	0.50–2.80									○	●					
		0702003FL-M	<0.03	0.01–0.08	0.50–2.80									○	●					
		0702005FR-M	<0.05	0.01–0.08	0.50–2.80									○	●					
		0702005FL-M	<0.05	0.01–0.08	0.50–2.80									○	●					
		070201FR-M	<0.10	0.01–0.08	0.50–2.80		○							○	●					
		070201FL-M	<0.10	0.01–0.08	0.50–2.80		○							○	●					
		070202FR-M	<0.20	0.01–0.08	0.50–2.80		●							○	●					
		070202FL-M	<0.20	0.01–0.08	0.50–2.80		○							○	●					
		070204FR-M	<0.40	0.01–0.08	0.50–2.80		○							○	●					
		070204FL-M	<0.40	0.01–0.08	0.50–2.80		○							○	●					
		**DCET 11T3003FR-M**	<0.03	0.01–0.10	0.50–4.00									○	●					
		11T3003FL-M	<0.03	0.01–0.10	0.50–4.00									○	●					
		11T3005FR-M	<0.05	0.01–0.10	0.50–4.00									○	●					
		11T3005FL-M	<0.05	0.01–0.10	0.50–4.00									○	●					
		11T301FR-M	<0.10	0.01–0.10	0.50–4.00		○							○	●					
		11T301FL-M	<0.10	0.01–0.10	0.50–4.00		○							○	●					
		11T302FR-M	<0.20	0.01–0.10	0.50–4.00		●							○	●					
		11T302FL-M	<0.20	0.01–0.10	0.50–4.00		○							○	●					
		11T304FR-M	<0.40	0.01–0.10	0.50–4.00		●							○	●					
		11T304FL-M	<0.40	0.01–0.10	0.50–4.00		○							○	●					

● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 90° (S)



(mm)

Product code	IC	S	D1	AN
SC_09T3_	9.525	3.97	4.40	7°
SC_1204_	12.70	4.76	5.50	7°
SC_3809_	38.10	9.525	9.80	7°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

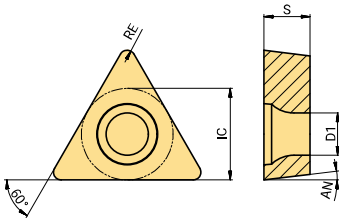
	Inserts	Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
				Machining conditions		●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
Semi-finishing		**SCGT 09T308F-NC2**	0.80	0.10–0.40	0.64–4.30														●	
Finishing		**SCMT 09T304E-PB1**	0.40	0.04–0.14	0.30–2.40	●	●		○	●		●	●	●						
		09T308E-PB1	0.80	0.09–0.28	0.60–2.40	●	●		●	○		●	●	●	●					
		120404E-PB1	0.40	0.04–0.14	0.30–3.20				○	○		●	●	●						
Semi-finishing		**SCMT 09T304E-PC2**	0.40	0.05–0.16	0.35–2.90	●	●		○	●		●	●	●	●					●
		09T308E-PC2	0.80	0.10–0.32	0.70–2.90	●	●		○	●		●	●	●	●					●
		120404E-PC2	0.40	0.05–0.16	0.35–3.80	●	●		●	○		●	●	●	●					●
		120408E-PC2	0.80	0.10–0.32	0.70–3.80	●	●	○	●	○		●	●	●	●					●
		120412E-PC2	1.20	0.16–0.48	1.05–3.80			○	○	●		●	●	●						●
		**SCMT 09T304-M2T**	0.40	0.10–0.25	0.70–3.50	●	●													
		09T308-M2T	0.80	0.10–0.25	0.70–3.50	●	●													
Medium		**SCMT 09T304E-KC2**	0.40	0.06–0.18	0.40–3.10	●	●		○	○							●	●		
		09T308E-KC2	0.80	0.12–0.36	0.80–3.10	●	●		●	○					●		●	●		
		120404E-KC2	0.40	0.06–0.18	0.40–4.20	●	●		●	○							●	●		
		120408E-KC2	0.80	0.12–0.36	0.80–4.20	●	●		●	○							●	●		
		120412E-KC2	1.20	0.18–0.54	1.20–4.20				●	●							●	●		
		**SCMW 09T304E-KD5**	0.40	0.10–0.22	0.40–4.80												●	●		
		09T308E-KD5	0.80	0.20–0.44	0.80–4.80											●	●	●		
		120404E-KD5	0.40	0.10–0.22	0.40–6.40												●	●		
		120408E-KD5	0.80	0.20–0.44	0.80–6.40												●	●		
		120412E-KD5	1.20	0.30–0.66	1.20–6.40											●	●	●		
Roughing		**SCMT 380932S-HT**	3.20	0.70–1.40	4.00–18.00						●									

● : Standard stock ○ : Made-to-Order

Turning Inserts Positive60° (T)

(mm)

Product code	IC	S	D1	AN
TBET_0601_	3.97	1.59	2.30	5°

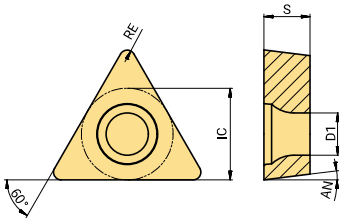


Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
						P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**TBET 0601003FR-F**	<0.03	0.03–0.08	0.10–0.50									○	●					
		0601003FL-F	<0.03	0.03–0.08	0.10–0.50									○	●					
		0601005FR-F	<0.05	0.03–0.08	0.10–0.50									○	●					
		0601005FL-F	<0.05	0.03–0.08	0.10–0.50									○	●					
		060101FR-F	<0.10	0.03–0.08	0.10–0.50		○							○	●					
		060101FL-F	<0.10	0.03–0.08	0.10–0.50		○							○	●					
		060102FR-F	<0.20	0.03–0.08	0.10–0.50		○							○	●					
		060102FL-F	<0.20	0.03–0.08	0.10–0.50		●							○	●					
		060104FR-F	<0.40	0.03–0.08	0.10–0.50		○							○	●					
		060104FL-F	<0.40	0.03–0.08	0.10–0.50		●							○	●					

Turning Inserts Positive 60° (T)

(mm)

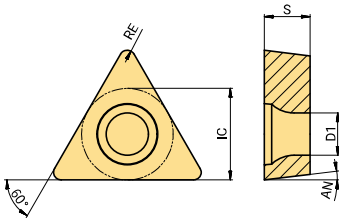
Product code	IC	S	D1	AN
TC_1102_	6.35	2.38	2.80	7°
TC_16T3_	9.525	3.97	4.40	7°



Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
						P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**TCGT 110201FP-LF**	<0.10	0.05–0.20	0.35–3.00									○	●					
		110202FP-LF	0.20	0.05–0.20	0.35–3.00									○	●					
		110204FP-LF	0.40	0.05–0.20	0.35–3.00									○	●					
		16T304FP-LF	0.40	0.05–0.20	0.35–3.00									○	●					
		**TCGT 110201FP-UF**	<0.10	0.02–0.15	0.10–2.40									○	●					
		110202FP-UF	0.20	0.02–0.15	0.20–2.40									○	●					
		110204FP-UF	0.40	0.03–0.20	0.20–2.40									○	●					
		16T304FP-UF	0.40	0.03–0.20	0.20–2.40									○	●					

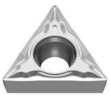
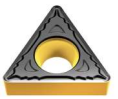
● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 60° (T)



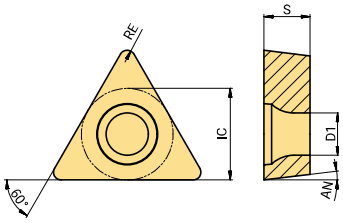
(mm)

Product code	IC	S	D1	AN
TC_0902_	5.56	2.38	2.50	7°
TC_1102_	6.35	2.38	2.80	7°
TC_16T3_	9.525	3.97	4.40	7°

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
						P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		TCGT 110201F-UF	0.10	0.02–0.15	0.10–2.40		○													
		110202F-UF	0.20	0.02–0.15	0.20–2.40		○													
		110204F-UF	0.40	0.03–0.20	0.20–2.40		○													
		16T304F-UF	0.40	0.03–0.20	0.20–2.40		○													
		TCGT 110201E-UF	0.10	0.02–0.15	0.10–2.40		○							●	●					●
		110202E-UF	0.20	0.02–0.15	0.20–2.40		●							●	●					●
		110204E-UF	0.40	0.03–0.20	0.20–2.40		●							●	●					●
		16T304E-UF	0.40	0.03–0.20	0.20–2.40		○							●	●					●
Semi-finishing		TCGT 110204F-NC2	0.40	0.05–0.20	0.32–4.90														●	
		16T304F-NC2	0.40	0.05–0.20	0.32–7.40														●	
		16T308F-NC2	0.80	0.10–0.40	0.64–7.40														●	
Finishing		TCMT 110204-F1T	0.40	0.07–0.20	0.40–1.50	●	●													
		16T304-F1T	0.40	0.10–0.25	0.60–1.50	●	●													
		TCMT 090204E-PB1	0.40	0.04–0.14	0.30–1.90	●	●		○	●		●	●	●	●					
		110202E-PB1	0.20	0.02–0.07	0.15–2.20	●	●		○	○		●	●	●						
		110204E-PB1	0.40	0.04–0.14	0.30–2.20	●	●		●	●		●	●	●						
		110208E-PB1	0.80	0.09–0.28	0.60–2.20	●	●		○	○		●	●	●						
		16T304E-PB1	0.40	0.04–0.14	0.30–3.30	●	●		●	●		●	●	●	●					
		16T308E-PB1	0.80	0.09–0.28	0.60–3.30	●	●		●	○		●	●	●						
		TCMT 110204-F2K	0.40	0.08–0.20	0.50–2.00	●	●													
		110208-F2K	0.80	0.10–0.25	0.50–2.00	●	●													
Semi-finishing		TCMT 090204E-PC2	0.40	0.05–0.16	0.35–2.60	●	●		●	●		●	●	●	●					●
		090208E-PC2	0.80	0.10–0.32	0.70–2.60	●	●		●	○		●	●	●	●					●
		110204E-PC2	0.40	0.05–0.16	0.35–3.00	●	●		●	●		●	●	●	●					●
		110208E-PC2	0.80	0.10–0.32	0.70–3.00	●	●		●	○		●	●	●	●					●
		16T304E-PC2	0.40	0.05–0.16	0.35–4.50	●	●	○	○	●		●	●	●	●					●
		16T308E-PC2	0.80	0.10–0.32	0.70–4.50	●	●	●	●	●		●	●	●	●					●
		16T312E-PC2	1.20	0.16–0.48	1.05–4.50	●	●		○	○		●	●	●						●
		TCMT 110204-M2T	0.40	0.10–0.25	0.60–2.00	●	●													
		110208-M2T	0.80	0.10–0.25	0.60–2.00	●	●													
		110302-M2T	0.20	0.06–0.18	0.60–2.00	●	●													
		TCMT 16T304-M2T	0.40	0.06–0.18	0.40–2.90	●	●													
		16T308-M2T	0.80	0.12–0.36	0.80–2.90	●	●													

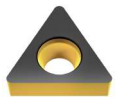
● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 60° (T)



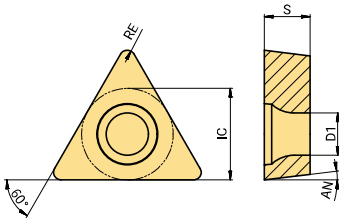
(mm)

Product code	IC	S	D1	AN
TC_0802_	4.76	2.38	2.30	7°
TC-0902_	5.56	2.38	2.50	7°
TC_1102_	6.35	2.38	2.80	7°
TC_16T3_	9.525	3.97	4.40	7°

Inserts		Product code	RE (mm)	Recommanded parameters		Machining conditions: ● Good Conditions ⧓ General Conditions ✱ Bad Conditions													
				f (mm/rev)	ap (mm)	P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Medium		**TCMT 090204E-KC2**	0.40	0.06–0.18	0.40–2.90	●	●		○	●		●	●	●			●	●		
		090208E-KC2	0.80	0.12–0.36	0.80–2.90	●	●		○	○		●	●	●			●	●		
		110204E-KC2	0.40	0.06–0.18	0.40–3.30	●	●		●	○		●	●	●			●	●		
		110208E-KC2	0.80	0.12–0.36	0.80–3.30	●	●		○	○		●	●	●			●	●		
		16T304E-KC2	0.40	0.06–0.18	0.40–4.90	●	●	○	○	●		●	●	●			●	●		
		16T308E-KC2	0.80	0.12–0.36	0.80–4.90	●	●	○	●	○		●	●	●			●	●		
		16T312E-KC2	1.20	0.18–0.54	1.20–4.90	●	●		●	●		●	●	●		●	●	●		
Roughing		**TCMW 110204E-KD5**	0.40	0.06–0.18	0.40–5.50												●	●		
		110208E-KD5	0.80	0.12–0.36	0.80–5.50												●	●		
		16T304E-KD5	0.40	0.06–0.18	0.40–8.20												●	●		
		16T308E-KD5	0.80	0.12–0.36	0.80–8.20												●	●		
Finishing		**TCET 110201FR-F**	<0.10	0.03–0.13	0.10–0.80		○							○	●					
		110201FL-F	<0.10	0.03–0.13	0.10–0.80		○							○	●					
		110202FR-F	<0.20	0.03–0.13	0.10–0.80		○							○	●					
		110202FL-F	<0.20	0.03–0.13	0.10–0.80		○							○	●					
		110204FR-F	<0.40	0.03–0.13	0.10–0.80		○							○	●					
		110204FL-F	<0.40	0.03–0.13	0.10–0.80		●							○	●					
		110208FR-F	<0.80	0.03–0.13	0.10–0.80		○							○	●					
		110208FL-F	<0.80	0.03–0.13	0.10–0.80		○							○	●					
Low feed		**TCET 0802003FR-M**	<0.03	0.01–0.08	0.50–2.50									○	●					
		0802003FL-M	<0.03	0.01–0.08	0.50–2.50									○	●					
		080201FR-M	<0.10	0.01–0.08	0.50–2.50		○							○	●					
		080201FL-M	<0.10	0.01–0.08	0.50–2.50		○							○	●					
		080202FR-M	<0.20	0.01–0.08	0.50–2.50		○							○	●					
		080202FL-M	<0.20	0.01–0.08	0.50–2.50		●							○	●					
		**TCET 1103003FR-M**	<0.03	0.02–0.10	0.50–4.00									○	●					
		1103003FL-M	<0.03	0.02–0.10	0.50–4.00									○	●					
		110301FR-M	<0.10	0.02–0.10	0.50–4.00		○							○	●					
		110301FL-M	<0.10	0.02–0.10	0.50–4.00		○							○	●					
		110302FR-M	<0.20	0.02–0.10	0.50–4.00		○							○	●					
		110302FL-M	<0.20	0.02–0.10	0.50–4.00		○							○	●					
		110304FR-M	<0.40	0.02–0.10	0.50–4.00		●							○	●					
		110304FL-M	<0.40	0.02–0.10	0.50–4.00		○							○	●					

● : Standard stock ○ : Made-to-Order

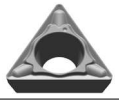
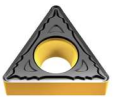
Turning Inserts Positive 60° (T)



(mm)

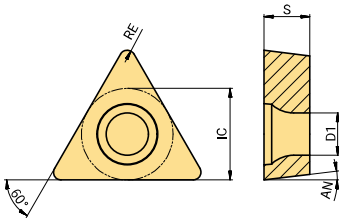
Product code	IC	S	D1	AN
TP_0902_	5.56	2.38	2.50	11°
TP_1103_	6.35	3.18	3.40	11°
TP_1603_	9.525	3.18	4.40	11°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters		P						M				K			N	S
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**TPMT 110304-F1T**	0.40	0.07–0.20	0.40–1.50	●	●													
		**TPMT 110308E-PA1**	0.80	0.05–0.30	0.10–1.00	●	●	●	●											
		**TPMT 090202E-PB1**	0.20	0.02–0.07	0.15–1.90	●	●	●												
		090204E-PB1	0.40	0.04–0.14	0.30–1.90	●	●	○							●					
		090208E-PB1	0.80	0.09–0.28	0.60–1.90	●	●	○												
		110302E-PB1	0.20	0.02–0.07	0.15–2.20	●	●	●												
		110304E-PB1	0.40	0.04–0.14	0.30–2.20	●	●	●							●					
		110308E-PB1	0.80	0.09–0.28	0.60–2.20	●	●	○												
		160304E-PB1	0.40	0.04–0.14	0.30–3.30	●	●	○												
		160308E-PB1	0.80	0.09–0.28	0.60–3.30	●	●	○												
		**TPMT 110304-F2K**	0.40	0.08–0.20	0.50–2.00	●	●													
Semi-finishing		**TPMT 090204E-PC2**	0.40	0.05–0.16	0.35–2.60	●	●	○				●	●	●						
		090208E-PC2	0.80	0.10–0.32	0.70–2.60	●	●	○				●	●	●	●					
		110304E-PC2	0.40	0.05–0.16	0.35–3.00	●	●	○				●	●	●						●
		110308E-PC2	0.80	0.10–0.32	0.70–3.00	●	●	○				●	●	●	●					
		160304E-PC2	0.40	0.10–0.25	0.60–2.00	●	●	○				●	●	●						
		160308E-PC2	0.80	0.10–0.25	0.60–2.00	●	●	○				●	●	●						

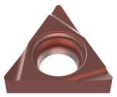
● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 60° (T)



(mm)

Product code	IC	S	D1	AN
TP_0802_	4.76	2.38	2.30	11°
TP_0902_	5.56	2.38	2.50	11°
TP_1103_	6.35	3.18	3.40	11°

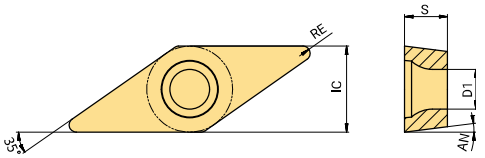
Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	Machining conditions: ● Good Conditions ◐ General Conditions ✱ Bad Conditions													
						●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
						P						M				K			N	S
						AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**TPEH 080201FR-F**	<0.10	0.01–0.10	0.10–0.80		○							○	●					
		080201FL-F	<0.10	0.01–0.10	0.10–0.80		○							○	●					
		080202FR-F	<0.20	0.01–0.10	0.10–0.80		○							○	●					
		080202FL-F	<0.20	0.01–0.10	0.10–0.80		●							○	●					
		080204FR-F	<0.40	0.01–0.10	0.10–0.80		○							○	●					
		080204FL-F	<0.40	0.01–0.10	0.10–0.80		●							○	●					
		**TPEH 090201FR-F**	<0.10	0.01–0.10	0.10–0.80		○							○	●					
		090201FL-F	<0.10	0.01–0.10	0.10–0.80		○							○	●					
		090202FR-F	<0.20	0.01–0.10	0.10–0.80		○							○	●					
		090202FL-F	<0.20	0.01–0.10	0.10–0.80		●							○	●					
		090204FR-F	<0.40	0.01–0.10	0.10–0.80		○							○	●					
		090204FL-F	<0.40	0.01–0.10	0.10–0.80		○							○	●					
		**TPEH 110302FR-F**	<0.20	0.01–0.12	0.20–0.80		○							○	●					
		110302FL-F	<0.20	0.01–0.12	0.20–0.80		●							○	●					
		110304FR-F	<0.40	0.01–0.12	0.20–0.80		○							○	●					
		110304FL-F	<0.40	0.01–0.12	0.20–0.80		●							○	●					
		110308FR-F	<0.80	0.01–0.12	0.20–0.80		○							○	●					
		110308FL-F	<0.80	0.01–0.12	0.20–0.80		○							○	●					

● : Standard stock ○ : Made-to-Order

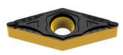
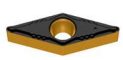
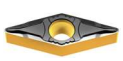
Turning Inserts Positive 35° (V)

(mm)

Product code	IC	S	D1	AN
VB_1103_	6.35	3.18	2.80	5°
VB_1604_	9.52	4.76	4.40	5°

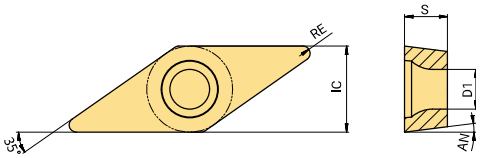


● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
Finishing		VBGT 1103005FP-LF	<0.05	0.05–0.20	0.35–3.00									○	●					
		110301FP-LF	<0.10	0.05–0.20	0.35–3.00									●	●					
		110302FP-LF	0.20	0.05–0.20	0.35–3.00									●	●					
		110304FP-LF	0.40	0.05–0.20	0.35–3.00									●	●					
		160401FP-LF	<0.10	0.05–0.20	0.35–3.00									○	●					
		160402FP-LF	0.20	0.05–0.20	0.35–3.00									○	●					
		VBGT 110301FP-UF	0.10	0.02–0.15	0.10–1.40									●	●					
		110302FP-UF	0.20	0.02–0.15	0.20–1.40									●	●					
		110304FP-UF	0.40	0.03–0.20	0.20–1.40									●	●					
		160401FP-UF	0.10	0.02–0.15	0.10–1.40									○	●					
		160402FP-UF	0.20	0.02–0.15	0.20–1.40									○	●					
		VBGT 110301F-UF	0.10	0.02–0.15	0.10–1.40		○													
		110302F-UF	0.20	0.02–0.15	0.20–1.40		●													
		110304F-UF	0.40	0.03–0.20	0.20–1.40		●													
		160401F-UF	0.10	0.02–0.15	0.10–1.40		○													
		160402F-UF	0.20	0.02–0.15	0.20–1.40		●													
		VBGT 110301E-UF	0.10	0.02–0.15	0.10–1.40		○							●	●					●
		110302E-UF	0.20	0.02–0.15	0.20–1.40		●							●	●					●
		110304E-UF	0.40	0.03–0.20	0.20–1.40		●							●	●					●
		160401E-UF	0.10	0.02–0.15	0.10–1.40		○							○	●					●
		160402E-UF	0.20	0.02–0.15	0.20–1.40		●							●	●					●
Profiling		VBMT 110302E-BS	0.20	0.10–0.32	0.70–2.10	●	●	●	○											
		110304E-BS	0.40	0.05–0.16	0.35–3.10	●	●	●	○											
		110308E-BS	0.80	0.10–0.32	0.70–3.10	●	●	●	○											
		160402E-BS	0.20	0.04–0.14	0.30–1.50	●	●	●	○											
		160404E-BS	0.40	0.06–0.18	0.40–3.30	●	●	●	○											
		160408E-BS	0.80	0.12–0.36	0.80–3.30	●	●	●	○	○										
		160412E-BS	1.20	0.18–0.54	1.20–3.30	●	●	●	○											
Finishing		VBMT 110302E-PA1	0.20	0.04–0.25	0.10–1.00	●	●	●	●											
		160404E-PA1	0.40	0.04–0.25	0.10–1.00	●	●	●	●											
		160408E-PA1	0.80	0.05–0.30	0.10–1.00	●	●	●	●											
		VBMT 110304E-PB1	0.40	0.04–0.14	0.30–1.40	●	●		●	○		●	●	●	●					
		110308E-PB1	0.80	0.09–0.28	0.60–1.40	●	●		○	○		●	●	●	●					
		160402E-PB1	0.20	0.02–0.07	0.15–2.10	●	●		○	●		●	●	●	●					
		160404E-PB1	0.40	0.04–0.14	0.30–2.10	●	●		○	○		●	●	●	●					
		160408E-PB1	0.80	0.09–0.28	0.60–2.10	●	●	○	●	●		●	●	●	●					

● : Standard stock ○ : Made-to-Order

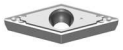
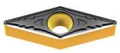
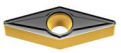
Turning Inserts Positive 35° (V)



(mm)

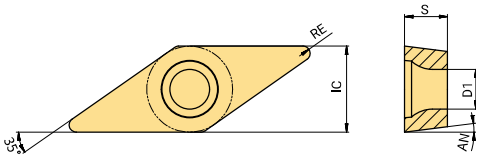
Product code	IC	S	D1	AN
VB_1103_	6.35	3.18	2.80	5°
VB_1604_	9.52	4.76	4.40	5°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
				Machining conditions		●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
Finishing		**VBMT 110304-F2K**	0.40	0.08–0.20	0.50–2.00	●	●													
		160404-F2K	0.40	0.08–0.20	0.50–2.00	●	●													
		160408-F2K	0.80	0.10–0.25	0.50–2.00	●	●													
Semi-finishing		**VBMT 110304E-PC2**	0.40	0.05–0.16	0.35–2.10	●	●					●	●	●	●					●
		110308E-PC2	0.80	0.10–0.32	0.70–2.10	●	●					●	●	●	●					●
		160404E-PC2	0.40	0.05–0.16	0.35–3.10	●	●	●				●	●	●	●					●
		160408E-PC2	0.80	0.10–0.32	0.70–3.10	●	●	●				●	●	●	●					●
		160412E-PC2	1.20	0.16–0.48	1.05–3.10			●				●	●	●	●					●
Medium		**VBMT 160404E-KC2**	0.40	0.06–0.18	0.40–3.30	●	●		●	○		●	●	●			●	●		
		160408E-KC2	0.80	0.12–0.36	0.80–3.30	●	●	●	●	●		●	●	●			●	●		
		160412E-KC2	1.20	0.18–0.54	1.20–3.30	●	●	●	●	○		●	●	●			●	●		
Finishing		**VBET 1103003FR-F**	<0.03	0.01–0.18	0.10–0.30									○	●					
		1103003FL-F	<0.03	0.01–0.18	0.10–0.30									○	●					
		1103005FR-F	<0.05	0.01–0.18	0.10–0.30									○	●					
		1103005FL-F	<0.05	0.01–0.18	0.10–0.30									○	●					
		110301FR-F	<0.10	0.01–0.18	0.10–0.30		○							○	●					
		110301FL-F	<0.10	0.01–0.18	0.10–0.30		○							○	●					
		110302FR-F	<0.20	0.01–0.18	0.10–0.30		●							○	●					
		110302FL-F	<0.20	0.01–0.18	0.10–0.30		○							○	●					

● : Standard stock ○ : Made-to-Order

Turning Inserts Positive 35° (V)



(mm)

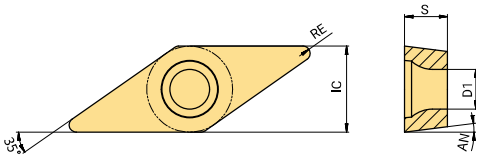
Product code	IC	S	D1	AN
VB_1103_	6.35	3.18	2.80	5°
VB_1604_	9.52	4.76	4.40	5°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters f (mm/rev)	Recommanded parameters ap (mm)	P AT202	P AT210A	P AC052P	P AC152P	P AC252P	P AC350P	M AC100M	M AC200M	M AP200U	M AP301M	K AC100K	K AC102K	K AC202K	N AW100K	S AP100S
Machining conditions						●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
Low feed		VBET 1103005FR-M	<0.05	0.01–0.06	0.20–2.00									○	●					
		1103005FL-M	<0.05	0.01–0.06	0.20–2.00									○	●					
		110301FR-M	<0.10	0.01–0.06	0.20–2.00		○							○	●					
		110301FL-M	<0.10	0.01–0.06	0.20–2.00		○							○	●					
		110302FR-M	<0.20	0.01–0.06	0.20–2.00		●							○	●					
		110302FL-M	<0.20	0.01–0.06	0.20–2.00		○							○	●					
		110304FR-M	<0.40	0.01–0.06	0.20–2.00		●							○	●					
		110304FL-M	<0.40	0.01–0.06	0.20–2.00		○							○	●					
		VBET 1103003FR-Y	<0.03	0.08–0.22	0.50–1.80									○	●					
		1103003FL-Y	<0.03	0.08–0.22	0.50–1.80									○	●					
		1103005FR-Y	<0.05	0.08–0.22	0.50–1.80									○	●					
		1103005FL-Y	<0.05	0.08–0.22	0.50–1.80									○	●					
		110301FR-Y	<0.10	0.08–0.22	0.50–1.80		○							○	●					
		110301FL-Y	<0.10	0.08–0.22	0.50–1.80		○							○	●					
		110302FR-Y	<0.20	0.08–0.22	0.50–1.80		●							○	●					
		110302FL-Y	<0.20	0.08–0.22	0.50–1.80		○							○	●					
		110304FR-Y	<0.40	0.08–0.22	0.50–1.80		●							○	●					
		110304FL-Y	<0.40	0.08–0.22	0.50–1.80		○							○	●					
		VBET 160402FR-Y	<0.20	0.10–0.25	0.80–2.00		●							○	●					
		160402FL-Y	<0.20	0.10–0.25	0.80–2.00		○							○	●					
		160404FR-Y	<0.40	0.10–0.25	0.80–2.00		●							○	●					
		160404FL-Y	<0.40	0.10–0.25	0.80–2.00		○							○	●					
		160408FR-Y	0.80	0.10–0.25	0.80–2.00		○							○	●					
		160408FL-Y	0.80	0.10–0.25	0.80–2.00		○							○	●					

● : Standard stock ○ : Made-to-Order

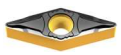
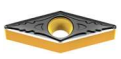
Turning Inserts Positive 35° (V)



(mm)

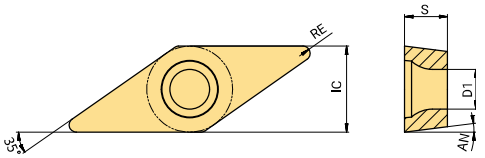
Product code	IC	S	D1	AN
VC_1103_	6.35	3.18	2.80	7°
VC_1604_	9.525	4.76	4.40	7°
VC_2205_	12.70	5.56	5.50	7°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters		Machining conditions	P						M				K			N	S
				f (mm/rev)	ap (mm)		●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
							AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**VCGT 1103005FP-LF**	<0.05	0.05–0.20	0.35–3.00									○	●						
		110301FP-LF	<0.10	0.05–0.20	0.35–3.00									●	●						
		110302FP-LF	0.20	0.05–0.20	0.35–3.00									●	●						
		110304FP-LF	0.40	0.05–0.20	0.35–3.00									●	●						
		**VCGT 1103005FP-UF**	<0.05	0.02–0.15	0.10–1.40									○	●						
		110301FP-UF	0.10	0.02–0.15	0.10–1.40									●	●						
		110302FP-UF	0.20	0.02–0.15	0.20–1.40									●	●						
		110304FP-UF	0.40	0.03–0.20	0.20–1.40									●	●						
		**VCGT 1103005F-UF**	<0.05	0.02–0.15	0.10–1.40										○						
		110301F-UF	0.10	0.02–0.15	0.10–1.40		○														
		110302F-UF	0.20	0.02–0.15	0.20–1.40		●														
		110304F-UF	0.40	0.03–0.20	0.20–1.40		○														
		**VCGT 110301E-UF**	0.10	0.02–0.15	0.10–1.40		○								●	●					●
		110302E-UF	0.20	0.02–0.15	0.20–1.40		●								●	●					●
		110304E-UF	0.40	0.03–0.20	0.20–1.40		●								●	●					●
Semi-finishing		**VCGT 110302F-NC2**	0.20	0.02–0.10	0.16–2.80															●	
		110304F-NC2	0.40	0.05–0.20	0.32–2.80															●	
		160404F-NC2	0.40	0.05–0.20	0.32–4.20															●	
		160408F-NC2	0.80	0.10–0.40	0.64–4.20															●	
		160412F-NC2	1.20	0.14–0.60	0.96–4.20															●	
		220530F-NC2	3.00	0.36–1.50	2.40–5.50															●	
Finishing		**VCMT 160404E-PB1**	0.40	0.04–0.14	0.30–2.10					●	○		●	●	●						
		160408E-PB1	0.80	0.09–0.28	0.60–2.10					●	○		●	●	●						
Semi-finishing		**VCMT 110304E-PC2**	0.40	0.05–0.16	0.35–2.10					●	○		●	●	●	●					
		110308E-PC2	0.80	0.10–0.32	0.70–2.10					●	●		●	●	●	●					
		160404E-PC2	0.40	0.05–0.16	0.35–3.10				○	●	○		●	●	●	●					
		160408E-PC2	0.80	0.10–0.32	0.70–3.10				●	●	●		●	●	●	●					
		160412E-PC2	1.20	0.16–0.48	1.05–3.10				●	●	○		●	●	●						
Finishing		**VCET 1103005FR-F**	<0.05	0.01–0.18	0.10–0.30										○	●					
		1103005FL-F	<0.05	0.01–0.18	0.10–0.30										○	●					
		110301FR-F	<0.10	0.01–0.18	0.10–0.30			●							○	●					
		110301FL-F	<0.10	0.01–0.18	0.10–0.30			○							○	●					
		110302FR-F	<0.20	0.01–0.18	0.10–0.30			●							○	●					
		110302FL-F	<0.20	0.01–0.18	0.10–0.30			○							○	●					
		110304FR-F	<0.40	0.01–0.18	0.10–0.30			○							○	●					
		110304FL-F	<0.40	0.01–0.18	0.10–0.30			○							○	●					

● : Standard stock ○ : Made-to-Order

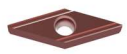
Turning Inserts Positive 35° (V)



(mm)

Product code	IC	S	D1	AN
VP_0802_	4.76	2.38	2.30	11°
VP_1103_	6.35	3.18	2.80	11°
VP_2205_	12.70	5.56	5.50	11°

● Good Conditions ◐ General Conditions
✱ Bad Conditions

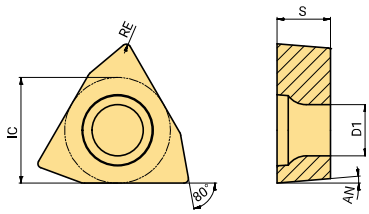
Inserts		Product code	RE (mm)	Recommanded parameters		Machining conditions	P						M				K			N	S
				f (mm/rev)	ap (mm)		AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		VPGT 1103005FP-LF	<0.05	0.05–0.20	0.35–3.00									○	●						
		110301FP-LF	<0.10	0.05–0.20	0.35–3.00									○	●						
		110302FP-LF	0.20	0.05–0.20	0.35–3.00									○	●						
		VPGT 110301FP-UF	0.10	0.02–0.15	0.10–1.40									○	●						
		110302FP-UF	0.20	0.02–0.15	0.20–1.40									○	●						
		VPGT 110301F-UF	0.10	0.02–0.15	0.10–1.40		○														
		110302F-UF	0.20	0.02–0.15	0.20–1.40		○														
Semi-finishing		VPGT 220520E-NC2	2.00	0.24–1.00	1.60–5.50															●	
		220520F-NC2	2.00	0.24–1.00	1.60–5.50															●	
Finishing		VPET 080201FR-F	<0.10	0.02–0.15	0.05–0.20		○							○	●						
		080201FL-F	<0.10	0.02–0.15	0.05–0.20		○							○	●						
		080202FR-F	<0.20	0.02–0.15	0.05–0.20		○							○	●						
		080202FL-F	<0.20	0.02–0.15	0.05–0.20		●							○	●						
Low feed		VPET 080201FR-M	<0.10	0.01–0.06	0.20–1.50		○							○	●						
		080201FL-M	<0.10	0.01–0.06	0.20–1.50		○							○	●						
		080202FR-M	<0.20	0.01–0.06	0.20–1.50		○							○	●						
		080202FL-M	<0.20	0.01–0.06	0.20–1.50		●							○	●						
		VPET 110301FR-M	<0.10	0.01–0.06	0.20–2.00		○							○	●						
		110301FL-M	<0.10	0.01–0.06	0.20–2.00		○							○	●						
		110302FR-M	<0.20	0.01–0.06	0.20–2.00		●							○	●						
		110302FL-M	<0.20	0.01–0.06	0.20–2.00		○							○	●						
		110304FR-M	<0.40	0.01–0.06	0.20–2.00		●							○	●						
		110304FL-M	<0.40	0.01–0.06	0.20–2.00		○							○	●						

● : Standard stock ○ : Made-to-Order

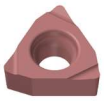
Turning Inserts Positive 80° (W)

(mm)

Product code	IC	S	D1	AN
WB_0601_	3.97	1.59	2.30	5°
WB_0802_	4.76	2.38	2.30	5°

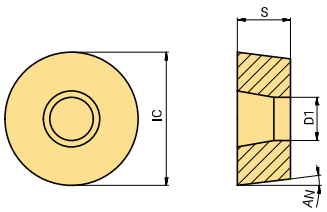


● Good Conditions ◐ General Conditions
✱ Bad Conditions

Inserts		Product code	RE (mm)	Recommanded parameters		P						M				K			N	S
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Finishing		**WBET 0601003FR-F**	<0.03	0.05–0.08	0.10–0.80										●					
		0601003FL-F	<0.03	0.05–0.08	0.10–0.80										●					
		060101FR-F	<0.10	0.05–0.08	0.10–0.80										●					
		060101FL-F	<0.10	0.05–0.08	0.10–0.80										●					
		060102FR-F	<0.20	0.05–0.08	0.10–0.80										●					
		060102FL-F	<0.20	0.05–0.08	0.10–0.80										●					
		060104FR-F	<0.40	0.05–0.08	0.10–0.80										●					
		060104FL-F	<0.40	0.05–0.08	0.10–0.80										●					
		**WBET 0802003FR-F**	<0.03	0.05–0.08	0.10–0.80										●					
		0802003FL-F	<0.03	0.05–0.08	0.10–0.80										●					
		080201FR-F	<0.10	0.05–0.08	0.10–0.80										●					
		080201FL-F	<0.10	0.05–0.08	0.10–0.80										●					
		080202FR-F	<0.20	0.05–0.08	0.10–0.80										●					
		080202FL-F	<0.20	0.05–0.08	0.10–0.80										●					
		080204FR-F	<0.40	0.05–0.08	0.10–0.80										●					
		080204FL-F	<0.40	0.05–0.08	0.10–0.80										●					

● : Standard stock ○ : Made-to-Order

Turning Inserts Positive Round (R)



(mm)

Product code	IC	S	D1	AN
RCGT_0803_	8.00	3.18	3.40	7°
RCGT_1003_	10.00	3.18	4.40	7°
RCGT_10T3_	10.00	3.97	4.40	7°
RCMX_1003_	10.00	3.18	3.60	7°
RCMX_1204_	12.00	4.76	4.20	7°
RCMX_1606_	16.00	6.35	5.20	7°
RCMX_2006_	20.00	6.35	6.50	7°
RCMX_2507_	25.00	7.94	7.20	7°
RCMX_3209_	32.00	9.525	9.60	7°

● Good Conditions ◐ General Conditions ✱ Bad Conditions

Inserts		Product code	RE (mm)	Machining conditions		●	●	●	◐	✱	✱	●	◐	◐	◐	●	◐	✱	●	●
				Recommanded parameters		P						M				K			N	S
				f (mm/rev)	ap (mm)	AT202	AT210A	AC052P	AC152P	AC252P	AC350P	AC100M	AC200M	AP200U	AP301M	AC100K	AC102K	AC202K	AW100K	AP100S
Semi-finishing		**RCGT 0803MOF-NC2**	–	0.10–1.00	0.70–3.30														●	
		1003MOF-NC2	–	0.20–1.30	0.90–4.00														●	
		10T3MOF-NC2	–	0.20–1.30	0.90–4.00														●	
		**RCMT 0803MOE-PD8**	–	0.06–0.31	0.80–3.20															
		10T3MOS-PD8	–	0.06–0.31	1.00–4.00															
		1204MOS-PD8	–	0.08–0.38	1.20–4.80		○	○	○											
		1606MOS-PD8	–	0.10–0.50	1.60–6.40															
		2006MOS-PD8	–	0.21–1.26	2.00–8.00															
		2507MOS-PD8	–	0.28–1.53	2.50–10		○													
		**RCMX 2006MOS-PD8**	–	0.48–0.90	3.50–9.00			●	●											
		2507MOS-PD8	–	0.55–1.20	4.00–12.00			●	●											
		3209MOS-PD8	–	0.65–1.50	5.00–15.00			●	●											
Medium		**RCMX 100300S**	–	0.25–0.50	1.50–4.00		○	○	●											
		120400S	–	0.30–0.60	2.50–5.00			●	○											
		160600S	–	0.40–0.75	3.00–7.00			●	○											
		200600S	–	0.48–0.90	3.50–9.00			●	○											
		250700S	–	0.55–1.20	4.00–12.00			○	○											
		320900S	–	0.65–1.50	5.00–15.00		○	●	○											

● : Standard stock ○ : Made-to-Order