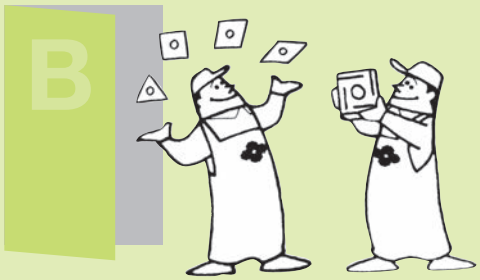
Indexable Insert B

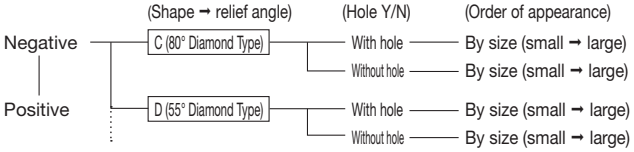
Negative / Positive / Ceramic B1 to B136



Format of This Chapter

(1) Turning insert listing order is negative type inserts followed by positive type inserts.
(2) The order of listing in each type group is as follows: C (80° Diamond Type) ➞ D (55° Diamond Type) ➞ R (Round Type) ➞ S (Square Type) ➞ T (Triangular Type) ➞ V (35° Diamond Type) ➞ W (Trigon Type).
(3) Listings of inserts with the same relief angle are provided for those with holes and then those without holes.
(4) Inserts are grouped by shape and then further divided by size (small to large according to cutting edge length and thickness).

• Structure Diagram



Symbols in Insert Diagrams

*Symbols conform to ISO13399.

L: Cutting edge length, IC: Inscribed circle, S: Thickness, RE: Corner radius, D1: Hole diameter (For SUMIBORON and SUMIDIA, L indicates side length.)

Handed Inserts

*Typically, photos show right-handed inserts.

If the bottom right reads "Photo: Left-handed," this indicates an exception where the photo shows a left-handed insert.

Insert Grades

(1) For IGETALLOY, the grades listed include Coated Carbide (CVD/PVD), Cermet, Cemented Carbide, and Ceramic.
(2) The listings of SUMIBORON and SUMIDIA are in the dedicated sections: SUMIBORON page L32 on and SUMIDIA page M10 on.

Stock Markings and Symbols

● mark: Standard stocked item
● mark: To be replaced with the new item featured on the same page
▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).
* mark: Semi-standard stock (please confirm stock availability)
○ mark: Stock or planned stock (please confirm stock availability)
Blank: Made-to-order item
— mark: Not available

Indexable Insert Cat. No. Identification Table

Example **C N M G**

(1) Insert Shape — Refer to Table 1

(2) Relief Angle — Refer to Table 2

(3) Tolerance — Refer to Table 3

(4) Insert Hole — Refer to Table 4

Table 1: (1) Insert Shape

Symbol	Insert Shape		Apex Angle
C		Diamond Type	80°
D			55°
E			75°
F			50°
V			35°
R		Round Type	—
S		Square Type	90°
T		Triangular Type	60°
W		Trigon Type	80°
A		Parallelogram Type	85°
B			82°
K			55°
H		Hexagon Type	120°
O		Octagonal Type	135°
P		Pentagonal Type	108°
L		Rectangular Type	90°
M		Diamond Type	86°

Table 2: (2) Relief Angle

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

★mark indicates inserts that are sometimes used with a 10° relief angle.

Table 3: (3) Tolerance (mm)

Symbol	Nose Height	Inscribed Circle	Thickness
A	± 0.005	± 0.025	± 0.025
F	± 0.005	± 0.013	± 0.025
C	± 0.013	± 0.025	± 0.025
H	± 0.013	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
G	± 0.025	± 0.025	± 0.13
J*	± 0.005	± 0.05 to ± 0.15	± 0.025
K*	± 0.013	± 0.05 to ± 0.15	± 0.025
L*	± 0.025	± 0.05 to ± 0.15	± 0.025
M*	± 0.08 to ± 0.2	± 0.05 to ± 0.15	± 0.13
N*	± 0.08 to ± 0.2	± 0.05 to ± 0.15	± 0.025
U*	± 0.13 to ± 0.38	± 0.08 to ± 0.25	± 0.13

★mark indicates inserts that generally have sintered side surfaces. Refer to the table below (reference) for details on M class precision.

Table 4: (4) Insert Hole

Symbol	Hole Y/N	Hole Style	Chipbreaker	Shape (Cross Section)	Symbol	Hole Y/N	Hole Style	Chipbreaker	Shape (Cross Section)
N	No	No	No		A	Yes	Cylindrical	No	
R			One Face		M			One Face	
F			Double-sided		G			Double-sided	
W	Yes	Straight Hole + Single Chamfer (40° to 60°)	No		B	Yes	Straight Hole + Single Chamfer (70° to 90°)	No	
T			One Face		H			One Face	
Q	Yes	Straight Hole + Double Chamfer (40° to 60°)	No		C	Yes	Straight Hole + Double Chamfer (70° to 90°)	No	
U			Double-sided		J			Double-sided	
					X	—	—	—	Special

(Reference) Breakdown of M-Class Tolerance by Shape and Size

● Nose Height Tolerance (mm)

Inscribed Circle	Triangular Type	Square Type	80° Diamond Type	55° Diamond Type	35° Diamond Type	Round Type
6.35	± 0.08	± 0.08	± 0.08	± 0.11	± 0.16	—
9.525	± 0.08	± 0.08	± 0.08	± 0.11	± 0.16	—
12.70	± 0.13	± 0.13	± 0.13	± 0.15	—	—
15.875	± 0.15	± 0.15	± 0.15	± 0.18	—	—
19.05	± 0.15	± 0.15	± 0.15	± 0.18	—	—
25.40	± 0.18	± 0.18	± 0.18	—	—	—
31.75	—	± 0.20	—	—	—	—

● Inscribed Circle Tolerance (mm)

Inscribed Circle	Triangular Type	Square Type	80° Diamond Type	55° Diamond Type	35° Diamond Type	Round Type
6.35	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	—
9.525	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05
12.70	± 0.08	± 0.08	± 0.08	± 0.08	—	± 0.08
15.875	± 0.10	± 0.10	± 0.10	± 0.10	—	± 0.10
19.05	± 0.10	± 0.10	± 0.10	± 0.10	—	± 0.10
25.40	± 0.13	± 0.13	± 0.13	—	—	± 0.13
31.75	—	± 0.15	—	—	—	± 0.15

Indexable Insert Cat. No. Identification Table

12 04 08 N - GE

(5) Cutting Edge Length — Refer to Table 5

(6) Thickness — Refer to Table 6

(7) Corner Radius — Refer to Table 7

(8) Feed Direction — Refer to Table 8

(9) Chipbreaker — Refer to Table 9

Picture of insert shown as example

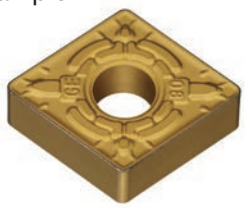


Table 5: (5) Cutting Edge Length (Typical Examples)

Note: Cutting edge length indicated is measured without nose radiuses. (mm)

Shape	Symbol	Cutting Edge Length	Inscribed Circle	Shape	Symbol	Cutting Edge Length	Inscribed Circle	Shape	Symbol	Cutting Edge Length Neg.	Cutting Edge Length Pos.	Inscribed Circle Neg.	Inscribed Circle Pos.
C 80° Diamond Type	03	3.55	3.50	D 55° Diamond Type	07	7.7	6.35	W Trigon Type	03	3.8		5.56	
	04	4.97	4.30		09	9.7	7.94		04	4.3		6.35	
	06	6.4	6.35		11	11.6	9.525		05	5.4		7.94	
	08	8.0	7.94		15	15.5	12.70		06	6.5	3.2	9.525	3.97
	09	9.7	9.525		19	19.4	15.875		08	8.7	4.6	12.70	4.76
	12	12.9	12.70						10	10.9		15.875	
	16	16.1	15.875	V 35° Diamond Type	08	8.3	4.76		11		4.3		6.35
	19	19.3	19.05		09	9.7	5.56		16		6.5		9.525
	25	25.8	25.4		11	11.1	6.35	R Round Type	08	8.0		8.0	
					16	16.6	9.525		10	10.0		10.0	
					22	22.1	12.7		12	12.0		12.0	
S Square Type	06	6.35	6.35	T Triangular Type	06	6.9	3.97		12	12.70		12.70	
	S7	7.14	7.14		08	8.2	4.76		15	15.875		15.875	
	07	7.94	7.94		09	9.6	5.56		16	16.0		16.0	
	09	9.525	9.525		11	11.0	6.35		19	19.05		19.05	
	12	12.70	12.70		13	13.7	7.94		20	20.0		20.0	
	15	15.875	15.875		16	16.5	9.525		24	24.0		24.0	
	19	19.05	19.05		22	22.0	12.70		25	25.0		25.0	
	25	25.40	25.40		27	27.5	15.875		25	25.40		25.40	
	31	31.75	31.75		33	33.0	19.05		32	32.0		32.0	

Table 6: (6) Thickness

Symbol	Thickness (mm)
X1	*
01	1.59
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52

(*)
CC□T03X1 Insert Thickness: 1.40
CC□T04X1 Insert Thickness: 1.80

Table 7: (7) Corner Radius

Symbol	Corner Radius (mm)
00	Sharp Edge
003	0.03
008	0.08
01	0.1
015	0.15
018	0.18
02	0.2
035	0.35
04	0.4
08	0.8
10	1.0
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
M0	Round Insert (Metric)
00	Round Insert (Inch)
00	Round Insert (Imperial)

"M" after the corner radius code indicates a negative tolerance.

Table 8: (8) Feed Direction

Symbol	Feed Direction
R	Right-handed
L	Left-handed
N	Neutral

Table 9: (9) Chipbreaker

Symbol	Applications	Bumpy Type	Standard	Handed Type
F□	Fine Cutting to Finishing	FA, FL, FE, FB, FC FK, FP		FT, FX, FZ FYS,FY, FW
S□ L□	Light Cutting	SE, SEW, SI, SC, SF, SS, SU, SX LU, LUW, LB		SD SDW ST
G□ U□	General Cutting	GE, GU, GUW UG, UP US, UX	GZ UZ	UM
M□	For Roughing	MP, MU, MX, ME	MC	MM HM
H□	Heavy Cutting	HG, HP, HF	HU HW	

Other Specials	
Wide breaker	W
Double Positive Chipbreaker	GX
For Chamfering	C
For Round Type Inserts	RD, RP, RX, RH
For Exotic Alloys Machining	EF, EG, EX, EM
For Aluminum Alloy Machining	AW, AG, AX, AY, LD, GD
For Hardened Steel Machining	FV, LV, GH
For Carburised Layer Removal	SV
For Stainless Steel Machining	EF, EG, EM

Grade Comparison Chart

■ CVD Coated Grades

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	NTK	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
For Turning	P Steel	P05	**AC8015P AC810P**	UE6105 MC6115	T9105 T9205	CA510 CA5505	HG8010		GC4305 GC4205	KCP05 KCP05B	TP0501 TP0500	WPP05S WPP05 WPP01	IC8005 IC8150 IC9015	TT8105
		P10	**AC8020P AC8015P AC810P**	MC6115 MC6015 UE6110	T9105 T9115 T9205 T9215	CA510 CA515 CA5515	HG8010	CP7	GC4415 GC4305 GC4315 GC4215	KCP10 KCP10B	TP1501 TP1500	WPP10S WPP10	IC8150 IC8080 IC9015 IC9150 IC9080	TT8115
		P20	**AC8020P AC8025P AC820P**	MC6025 UE6020	T9115 T9125 T9215 T9225	CA025P CA525	GM25 HG8025 GM8020	CP7	GC4425 GC4325 GC4225	KCP25 KCP25B	TP2501 TP2500	WPP20S WPP20	IC8150 IC8250 IC9015 IC9150 IC9250	TT5100 TT8125
		P30	**AC8035P AC830P AC6030M AC630M**	MC6035 UE6035	T9125 T9135 T9235	CA025P CA525 CA530	GM25 GM8035		GC4325 GC4335 GC4235	KCP30 KCP30B	TP3501 TP3500	WPP30S WPP30	IC8080 IC9350	TT7100 TT8135
		P40	**AC8035P AC830P AC6030M AC630M**	MC6035	T9135 T9235 T6130	CA530 CA5535	GX30 GM8035		GC4335 GC4235 GC30	KCP40 KCP40B	TP3501 TP3500		IC9350	TT7100
	M Stainless Steel S Exotic Alloy	M10 S10	**AC6020M AC610M**	MC7015 US7020 US905	T9115 T9215	CA6515	HS9105		GC2015 GC1515 S05F	KCM15	TM1501		IC9250 IC520M	TT9215 TT3005
		M20 S20	**AC6020M AC6030M AC610M AC630M**	MC7025 US7020	T6120 T9125 T9215	CA6525	HG8025		GC2025 GC1515	KCM25	TP2501 TM2000 TM2501		IC9025 IC9325 IC4050	TT5100 TT9225
		M30	**AC6030M AC630M AC8035P AC830P**	MC7025 US735	T6130	CA6535	GM8035 GX30 GM25		GC2035 GC235	KCM35	TP3501 TM3501 TM4000		IC9350 IC4050 IC635	TT9235
		M40	**AC6030M AC630M**	US735					GC235 GC2035		TM4000			TT7800
	K Cast Iron	K05	**AC4010K AC405K**	MC5005 UC5105 UC5115	T5105	CA310 CA4505 CA4010	HX3505	CP1	GC3205 GC3210	KCK05	TK0501 TK1001	WKK10S WAK10	IC5005	TT7005 TT7505
		K10	**AC4010K AC4015K AC405K AC415K**	MC5005 MC5015 MC5020 UC5105 UC5115	T515 T5105 T5115	CA315 CA4505 CA4515 CA4115	HX3305 HX3515 HG8010	CP1	GC3210	KCK15	TK1001 TK1501	WKK10S WKK20S WAK10 WAK20	IC5100 IC9150 IC4100	TT7015
		K20	**AC4015K AC415K AC420K AC425K AC8025P**	MC5015 UC5115 UE6110	T515 T5115 T5125	CA320 CA4515 CA4120 CA4115	HX3515 GM8020		GC3225	KCK15 KCK20	K2001	WKK20S WAK20 WAK30	IC9150 IC5100 IC4100	TT7015
For Milling	P Steel	P10	**XCU2500 ACP2000 ACP100**	F7030 MC7020 MV1020	T3130				GC4220 GC4330	KCPM20	MP1501 MP1500 MP2501 MP2500	WKP25S WKP25 WKP35S WKP35G	IC4100 IC5400 IC9015 IC8080 IC9080 IC5100	TT7080 TT7515 TT9300
		P20	**XCU2500 ACP2000 ACP100**	F7030 MC7020 MV1020	T3130 T3225		GX2140		GC4330 GC4340	KSPM20 KCPK30	MP2501 MP2500	WKP25S WKP25 WKP35S WKP35G	IC8080 IC9080 IC9250	TT7400
		P30	**XCU2500 ACP2000 ACP100**				GX2160		GC4340	KCPK30 KCPM30			IC9250 IC4050	TT7800 TT8525
	M Stainless Steel	M10	**XCU2500 ACM200**							KCPM20				
		M20	**XCU2500 ACM200**	F7030 MC7020 MV1020	T3130 T3225	CA6535	GX2160 AX2040		GC2040	KCPM20 KCPM30	MP2500 MP2501 MS2500	WMP45G WSM45X		TT7800 TT8525
		M30	**XCU2500 ACM200**							KCPM20 KCPM30	MP2500 MP2501 T350M		IC5820	TT7800 TT8525
	K Cast Iron	K10	**XCK2000 ACK2000 ACK200**		T1215					KCK15			IC5100	TT6800
		K20	**XCK2000 XCU2500 ACK2000 ACK200**	MV1020 MC5020 F5010 F5020	T1115 T1215	CA420M	GX2120		GC3330 GC3220 GC3225 GC3020 GC3040	KC915M KC930M KC935M	MP1501 MK1500	WAK15 WKP25S WKP35S WKP35G	IC5100 DT7150 IC4010 IC4050 IC4100	TT6800

■ PVD Coated Grades

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	NTK	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
For Turning	P Steel	P10	**AC1030U ACZ150 AC5005S AC5015S AC5025S AC520U**	VP15TF MS6015	AH110 AH120 AH710 AH725	PR915 PR930 PR1005 PR1215 PR1225 PR1705		TM1 VM1 DT4 DM4	GC1525	KCU10 KC5510	TS2000	WSM10	IC507 IC807 IC907	
		P20	**AC1030U AC5025S AC520U AC530U**	VP15TF VP20RT	AH120 AH725 AH3135	PR1225 PR1425 PR1725	IP2000	TM1 TM4 VM1 QM3 DM4	GC15 GC1125 GC1525	KCU25 KC5525	TS2500	WSM20	IC507 IC807 IC907	TT9030
		P30	**AC1030U AC530U**	VP15TF VP20RT	AH120 AH725 SH730 AH730	PR1425 PR1525 PR1535	IP3000 CY250	QM3	GC1125				IC328 IC928	TT8020 TT9030
		P40	**AC1030U**			PR660	IP3000		GC4335 GC4235				IC830	TT8020

Note: The above data was collected from various published catalogues. The information may therefore not be up to date.

Grade Comparison Chart

■ PVD Coated Grades (continued)

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	NTK	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
For Turning	M Stainless Steel / S Exotic Alloy	M10 S10	**AC5005S AC5015S AC5025S AC510U AC520U ACZ150**	MP9005 MP9015 VP15TF VP05RT VP10RT	AH110 AH710 AH725 AH905 AH8005	PR005S PR015S PR915 PR1025 PR1215 PR1225 PR1305 PR1310	IP050S IP100S JP9105 JP9115	TM1 VM1 DT4 DM4 ZM3 ST4	H5D6 GC1105 GC1115	KCS10 KCS10B KC5510 KCU10	TH1000 TS2000	WSM01 WSM10 WSM10S	IC804 IC807 IC808 IC907 IC908	TT3010 TT5080 TT8010
		M20 S20	**AC5015S AC5025S AC1030U AC520U**	MP9015 MP9025 VP15TF VP20RT VP20MF UP20M MS9025	AH630 AH120 AH725 AH8015	PR015S PR915 PR930 PR1025 PR1125 PR1215 PR1225 PR1325 PR1725	IP100S HS9115	DT4 DM4 ZM3 QM3 TM4 ST4	GC15 GC1115 GC1125	KC5525 KCU25 KC5025	TS2500	WSM20 WSM20S	IC330 IC806 IC808 IC830 IC908 IC928	TT3020 TT8010 TT8020 TT9030
		M30	**AC5025S AC6040M AC1030U AC520U AC530U**	MP7035 VP15TF VP20MF MS9025	AH630 AH645 AH725	PR1125 PR1525 PR1535		QM3 TM4 DT4 DM4	GC1125			WSM30 WSM30S	IC328 IC330 IC830 IC840 IC882	TT8020
		M40	**AC6040M AC1030U AC530U**	MP7035 VP15TF MS6015	AH645	PR1125 PR1535	GX30						IC830 IC928	TT8020
	K Cast Iron	K10	**AC1030U AC510U ACZ150 AC5015S**	VP10RT	AH110 AH120	PR905	HX3305 HG3305 HG3315 HX3515 HG8010 TH315 ATH10E		GC15				IC810	TT9030
		K20	**AC1030U AC510U ACZ150 AC5015S AC5025S**	VP10RT VP20RT VP15TF	AH120	PR905		DM4 QM3						TT9030
		K30	**AC1030U AC530U**	VP15TF VP20RT	AH110 AH120 AH725								IC830 IC908 IC910 IC928	
For Milling	P Steel	P10	**ACU2500 ACP200**	VP15TF MP6120	AH110 AH120 AH710 AH725	PR1225	PN215 PN15M JP4105 JP4115 JP4120 CY9020	DT4 DM4	GC1010	KC505M KC510M KC515M	F25M			TT2510 TT7080
		P20	**ACP3000 ACU2500 ACP200 ACP300**	VP15TF VP20RT MP6120 MP6130 UP20M	AH9030 AH120 AH725 AH3035 AH3225	PR1525 PR1225 PR1230 PR830	JP4120 CY150 CY9020 JS4045	TM4 DT4 DM4	GC1010 GC1025	KC522M KC525M KCSM30 SP6519	MP3000 F30M F32M F40M	WSM35 WSM35S	IC808 IC810 IC908 IC910	TT7080 TT9030 TT9080
		P30	**ACP3000 ACU2500 ACP200 ACP300**	VP15TF VP30RT MP6130 UP20M	AH3035 AH3135 AH3225 AH120 AH130 AH140 AH725	PR1525 PR1230 PR830	JS4045 JS4060 CY25 CY150 CY250 CY250V HC844 PTH30E	DM4 TM4 ZM3	GC1030 GC1130 GC2030	KC725M KC735M KC525M KC530M KCPM40 KCSM30 SP6519 X400	F40M T60M MP3000	WSM35 WSM35S WSP45 WSP45S	IC328 IC330 IC830 IC928	TT8080 TT8020 TT8525B
		P40	**ACP3000 ACU2500 ACP300**	VP30RT	AH140		JS4060 JM4160 PTH40H			KC725M KC735M KCPM40		WSP45 WSP45S	IC830 IC845 IC928	TT8020 TT8080 TT8525B
	M Stainless Steel / S Exotic Alloy	M10	**ACM100 ACU2500 ACK300 ACP300**	MP9120 VP15TF	AH110 AH120 AH330 AH725 AH8005 AH8015	PR1210 PR1225	CY9020 JP4120 PN08M PN15M PN208 PN215	DT4 DM4 ZM3	GC1010 GC1025 GC1030 GC1130	KC515M SP4019 SP6519			IC808 IC908	
		M20	**ACM300 ACU2500 ACP300**	MP7030 MP7130 MP9030 MP9120 MP9130 UP20M VP15TF VP20RT	AH120 AH130 AH330 AH725 AH3225 AH8015	PR1210 PR1225 PR1525 PR830	JP4120 CY150 JS1025	DT4 DM4 ZM3	S30T	KC522M KC525M SP4019 SP6519 X700	F25M F30M F32M MP3000 MS2050 MM4500	WSM35 WSM35S	IC328 IC330 IC808 IC830 IC840 IC908 IC928	TT9080 TT9030
		M30	**ACM300**	MP7030 MP7130 MP7140 MP9030 MP9130 MP9140 UP20M VP15TF VP20RT	AH130 AH140 AH330 AH725 AH3135	PR1525 PR1535 PR830	JM4160 PTH30E JS1025	DT4 DM4 ZM3	GC2030 GC1040 S30T	KC522M KC525M KC530M KC725M KC735M KCPM40 KCSM30 KCSM40 X700	F30M F32M F40M MP2050 MS2050	WSM35 WSM35S WSP45 WSP45S	IC328 IC330 IC830 IC840 IC882 IC928	TT8020 TT8080 TT9080
		M40	**ACM300**	MP7140 MP9140 VP30RT	AH140	PR1535	JM4160 PTH40H			KC725M KCPM40 KCSM40		WSP45 WSP45S	IC328 IC330 IC882	TT8020 TT8080
	K Cast Iron	K05	**ACK3000**	MP8010	AH110 AH710		TH303 TH308 ATH80D PTH08M		GC1010	SP4019	MH1000			
		K10	**ACK3000 ACU2500**	MP8010	AH110 AH120 AH330 AH710	PR1210	ATH10E TH315 CY100H		GC1010 GC1020	KC514M KC515M KC520M KCK20 SP4019 SP6519	MH1000		IC810 IC910	TT7080 TT7515
		K20	**ACK3000 ACU2500 ACK300**	MP8010 VP15TF	AH110 AH120 AH330 GH330	PR1210 PR1510	JP4120 PTH13S CY100H CY9020	DM4	GC1020 GC1025	KC514M KC524M KCK20 SP6519	MK2050 MK3000	WKK25S	IC808 IC810 IC830 IC908 IC910 IC928	TT6080 TT7515
		K30	**ACK3000 ACU2500 ACK300**	VP15TF VP20RT	AH725 AH120 AH330 GH110 GH130 GH330	PR1510 PR1210	JS4045 CY150 CY250		GC1025 GC1030 GC1130	KC520M KC522M KC524M	MK2050		IC830 IC810 IC910 IC928	TT6080

Note: The above data was collected from various published catalogues. The information may therefore not be up to date.

Grade Comparison Chart

■ Cermet

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
For Turning	P Steel	P10	**T1500Z* T1000A T1500A**	AP25N* VP25N* NX2525	GT720* GT9530* AT9535* J9530* NS520	TN60, TN6020 TN610, TN620 PV710*, PV720* CCX*	CZ25* CH550	CT5015	KT125 HTX KT1120			IC20N IC30N IC520N	PV3030 PV3010 CT3000
	P Steel	P20	**T1500Z* T2500Z* T3000Z* T1500A T2500A**	AP25N* NX2525 NX3035 MP3025*	NS9530 GT9530* AT9530* J9530*	TN90 TN620 TN6020 PV720* CCX*	CZ25* CH550	GC1525*	KT6215 KT315* KT175 KT5020*	CM CMP C15M TP1020		IC20N IC30N IC520N IC530N	CT7000
	P Steel	P30	**T2500Z* T3000Z* T2500A**	NX2525 MP3025* VP45N*	NS9530 GT9530* AT9530*	TN620 PV720* PV730*							
	K Cast Iron	K10	**T1000A**	AP25N* VP25N* NX2525	GT720* GT9530* NS9530 J9530* NS520	TN610 PV7005* PV710* CCX*	CH550	CT5015	KT125 HTX				PV3030 CT3000
For Milling	P Steel	P30	**T2500A T250A T4500A**	NX2525 MX3030 NX4545 VP45N*	NS540 NS740	TN60 TN90 TN100M TN620M	MZ1000* MZ2000* MZ3000* CH7030 CH7035	CT530	KT530M* KTPK20*	C15M		IC30N	

* mark indicates coated cermet

■ Cemented Carbide

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	NTK	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
For Turning / For Milling	P Steel	P10	**ST10P**		TH10		WS10		S1P					
	P Steel	P20	**ST20E**	UTi20T	KS20		EX35		SMA	K125M			IC07 IC50M	UF10
	P Steel	P30	**A30 A30N**	UTi20T	KS15F UX30	PW30	EX35 EX40		SM30				IC54 IC28	P30
	P Steel	P40	**ST40E**		TX40		EX45		S6				IC54 IC28	
	M Stainless Steel	M10	**EH510**		TH10		EX35 WA10B	KM1	H10A	KU10,K313 K68,KYSM10	890		IC07,IC20 IC08	
	M Stainless Steel	M20	**EH520**	UTi20T	KS20		EX35		H13A	K313 K68	HX 883		IC07,IC20 IC08	UF10
	M Stainless Steel	M30	**A30 A30N**	UTi20T	UX30				H10F SM30				IC28	
	K Cast Iron	K01	**H2 H1**	HTi05T	KS05F		WH01 WH05			KU10,K313 K68,K115M			IS8	
	K Cast Iron	K10	**H1 EH510**	HTi10	TH10	KW10 GW15	WH10	KM1	H13A	KU10,K313 K68,K115M K110M KY3500	890		IC20,IS8	K10
	K Cast Iron	K20	**G10E,H10E EH520**	UTi20T	KS15F KS20	GW25	WH20	KM3	H13A	KMF KY3500 KYHS10	890 883 HX		IC20 IS8	
	K Cast Iron	K30	**G10E,H10E**	UTi20T			WH30			KY3500	883			
	S Exotic Alloy	S10 S20	**EH510 EH520**	RT9005 RT9010 MT9015 TF15	TH10 KS05F KS15F KS20	SW05,SW10 SW25,KW10 GW15	WH10		H10A H10F H13A	KU10,K313 K68,KMF K110M,KYHS10 K1025	HX H25		IC20,IC07 IC08,IC28	K10
	Micro-fine Grained Carbide	Z01	**F0**	SF10,MF07 MF10,TBA16A	F,MD1508 MD08F		NM08						IC07	UF1A
	Micro-fine Grained Carbide	Z10	**AFU XF1**	HTi10 MF20	M,MD10 MD05F,MD07F	FW30	NM15		6UF,8UF PN90,H6FF		890		IC07	UF1A
	Micro-fine Grained Carbide	Z20	**AF0 AF1**	TF15 MF30	EM10,MD20 MD15		BRM20 EF20N		12UF		890 883		IC08	UF10
	Micro-fine Grained Carbide	Z30	**A1**		UM		NM25		N6F,H10F		883		IC08	

■ Ceramic

Applications	Work Material	Sumitomo Electric	Tungaloy	Kyocera	NTK	Sandvik	Kennametal	TaeguTec
For Turning / For Milling	H Hardened Steel	**NB100C**	WG300 LX11	A66N A65 KT66 PT600M	HC4,HC7 ZC7,WA1	GC6050 CC650 CC670	KY1615 KY4300	AB20 AB2010
	S Exotic Alloy	**WX120***	WG300	CF1 KS6030 KS6040	WA1 SX9	CC6060 CC6065 CC670	KY4300 KY1540	TC430 AS20
	K Cast Iron	**NB90S**	LX11,LX21 CXC73,FX105 CX710	A65,A66N KA30,KS500 KS6000,KT66 PT600M CS7050,KS6050	HC1,HW2,HC2,HC6 HC7,WA1,SX1,SX2 SP2,SX9,SX8	CC620,CC650 CC6090 GC1690	KY1615,KY1310 KY1320,KY3500 KY4300	AW120,AB30 AS500,AS10 SC10

★WX120 is only sold in Japan.

Note: The above data was collected from various published catalogues. The information may therefore not be up to date.

Grade Comparison Chart

■ CBN

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	NTK	Chukyo	Sandvik	Kennametal	SECO Tools	ISCAR
For Turning / For Milling	K Cast Iron	K01	**NCB100 BNC500* BN7000 BN500**	MB710 MB5015	BX910 BX930 BX870	KBN475 KBN60M	B30 B16		CB50 CB7525	KB1340		IB50 IB85
		K10	**BN7000 BN500**	MB710,MB730 MB5015,MB4020	BX470,BX480 BX950	KBN60M KBN900	B23 B16	HB55,HB56 HB569 HB580,HB57	CB7925		CBN200,CBN300 CBN300P,CBN400C	IB55 IB90
		K20	**BN7000 BNC8115 BNS8125**	MB730,MB4020 MB4120,MBS140	BX470,BX480 BXC90,BX90S	KBN900		HB56,HB569 HB580,HB57				
		K30	**BNC8115 BNS8125**	MB4120,MBS140 BC5030	BXC90 BX90S			HB57		KB5630	CBN500	
	S Exotic Alloy	S01	**NCB100 BN7000**	MB730 MB4020 MB4120	BX940,BX950 BX470,BX480 M714B			HB55 HB580 HB52		KB5630 KB1340		IB85 IB05S IB10S
	H Hardened Steel	H01	**BNC2010 BNC2115 BN1000 BN2000 BNX10**	BC8105 BC8110 MBC010 MB810 MB8110	BXA10 BXM10 BX310	KBN05M KBN10M KBN510	B5K B52	HB55 HB550 HB580 HB590	CB7105	KB5610	CH0550 CBN10 CBN100 CBN060K	IB05H IB50 IB10HC
		H10	**BNC2010 BNC2020 BNC2115 BNC2125 BN2000**	BC8110 BC8120 MBC020 MB8025 MB8110 MB825	BXA10 BXM10 BX330 BX530	KBN05M KBN25M KBN525	B5K B6K B52 B36	HB55 HB59 HB550 HB580 HB52	CB7015 CB7115 CB20	KBH20 KB5610 KB5625	CBN10 CBN100 CBN150 CBN060K CBN160C	IB10H IB55 IB25HA
		H20	**BNC2020 BNC2125 BNX20**	BC8120,BC8020 MBC020 MB8025,MB8120	BXA20 BXM20 BX360	KBN30M KBN35M KBN900	B36 B40 B6K	HB57,HB59 HB590 HB580	CB7025 CB7125 CB50	KBH20 KB5625 KB5630	CH2540 CBN150 CBN160C	IB20H,IB20HC IB25H,IB25HC
		H30	**BNC300 BN350**	BC8130 MB8130 MB835	BXM20 BXA20 BXC50 BX380	KBN30M KBN35M KBN900	B40	HB57 HB580	CB7135 CB7525	KB5630	CH3515	IB90

* mark: For ductile cast iron cutting

■ Polycrystalline Diamond

Applications	Work Material	Classification Code	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	NTK	Chukyo	Sandvik	Kennametal	SECO Tools	ISCAR
For Turning / For Milling	N Non-Ferrous Metal	N01	**DA1000 DA90**	MD205	DX180 DX160	KPD001	PD1		CD05 CD10	KD1400		ID5
		N10	**DA1000 DA150**	MD205 MD220	DX140	KPD001 KPD010 KPD230	PD2	HD100 HD30 HD60	CD1810	KD1400 KD1425	PCD05 PCD10	ID5
		N20	**DA1000 DA2200**	MD220 MD230	DX120 DX110	KPD230 KPD250	PD2	HD100 HD30 HD50		KD1400 KD1425	PCD05 PCD20	
		N30	**DA1000 DA2200**	MD2030 MD230	DX110			HD30,HD50 HD700 HD100		KD1400	PCD05 PCD30 PCD30M	

Note: The above data was collected from various published catalogues. The information may therefore not be up to date.

Chipbreaker Comparison Chart

■ Negative Type Inserts

Work Material	Applications	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	NTK	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
P Steel	Fine Cutting	**FA**	FH,FP	TF	GP			QF	FF	FF1		SF	
		FL,FB	FS,FY	NS,ZF	XP,XF,VF VC,SK	FE	WM			FF2	FP5		FA
	Finishing	**LU,FE**	SA,SY	NM	PP,XQ,CQ	BE	ZF1	LC	FN		NF3		FG
		SU	SH	TS,TSF	HQ	CE,B,BH	UL,WV	XF,MF	CT	MF2		NF	FC
	Finishing (Wiper Edge)	**LUW**		AFW,FW	WP,WF			WL,WP		W-FF2			
		SEW	SW	ASW,SW	WQ			WF,WMX	FW	W-MF2	NF	WF	WS
	Finishing to Light Cutting	**SE,SX**	LP	AS,ZM	CJ,XS	AB,CT	ZW1,WR	PF,KF	LF,33		MP3,NS6	F3P,TF	
	Medium Cutting	**GU(UG)**	MA,MV	TM,TQ	HS,PS	AH	ZP	XM,QM PMC	P,MG	M3	MU5	GN	ML,MP MC
		GE,UX	MH,MP	DM,AM	PQ,GS PT,PG	AE,AY	Z5	PM,SM KM,HM	MN,MP1		MP5,NM4 NM6	RF,LF	PC,MT
	Medium Cutting (Wiper Edge)	**GUW**	MW		WE			WM	MW,RW	W-M3	NM	WG	WT
	Roughing	**MU,ME**	RP,GH	TH,S	HT,GT PH	RE,AR	G	PR,XMR KR	RP	M5,MR7	RP5,NM9 RP7	M3P,NR	RT
		MX,MP	HAS,MT	CH					RN	MR6			
	Heavy Cutting	**HG**	HZ,HX,HL	THS,TRS	PX, Standard	TE,UE		QR	RM,MR	R4,R5,M6	NR6,NRF	NM	RX
		HP	HH,HXD,HR	65				HR,SR	RH	R7,MR7	NR8	TNM	RH
		HU,HW	HV			H							HT,HD HY
		HF	HCS	TUS		HX,HE		MR		RR9	NRR	R3P	HZ
M Stainless Steel	Finishing	**SU,EF**	LM,SH	SS	MQ,GU	SE,MP,AB	ZF1	MF	FP,FS,LF	MF2	NF4,FM5	F3M	EA,SF
	Light to Medium Cutting	**EX,EG**	GM,MS	SF,SA	MS,MU	PV	ZP	23	MS	MF1,M1	MM5	TF,VL	EM
	Medium Cutting	**GU**	MM	SM		DE		MM,MMC SMR	MP	MF3,M3	NM4,MS3 MU5	M3M PP	ET
	Roughing	**HM**	ES,1M,2M,HL	S		AE			UP	MF4,MF5	NR4,RM5		VF
		EM,MU	RM,GH,HM	SH	TK			MR,MRR		M5,MR3 MR4	HU5	MR,R3M M4MW	SU
K Cast Iron	Light Cutting	**UZ**	LK,MA,MK	CM,CF	Standard, C, KQ	V,VA		KF	UN	M4	NM5	GN	MT
	Medium Cutting	**GZ(UX),ME**	GK,RK,GH	Standard, CH 33	ZS,GC KG,KH	Y,RE		KM,KR KRR		MR7	RK5,RK7		RT
N Non-Ferrous Metal	Finishing	**AX**		P	AH				MS				
S Exotic Alloy	Finishing	**EF**	LS,FJ	HRF				SF,SGF			NFT	F3S	
	Medium Cutting	**EG,EX**	MS,MJ	HMM,SA,HRM	SQ	VI		SM,SMC		M1	NMT,NMS NMT	VL	
	Roughing	**MU,EM**	RS,GJ		SG,SX			SMR		MR3,MR4	NRT,HU5 NRS		
H Hardened Steel	Finishing	**GH,FV***		HP*									
	Light Cutting	**LV***	BF*	HF*	HH*,HL*								
	Carburised Layer Removal	**SV***	BM*	HM*	HD*								

( ) indicates a discontinued item. *mark indicates CBN/PCD tool breaker

Note: The above data was collected from various published catalogues. The information may therefore not be up to date.

Chipbreaker Comparison Chart

■ Positive Type Inserts

Work Material	Applications	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	MOLDINO	NTK	Sandvik	Kennametal	SECO Tools	WALTER	ISCAR	TaeguTec
P Steel	Finishing	**FC**	FJ,AM	01,JRP,JTS	CF,GF,VF P,PF		AM3,AZ7 AMX,FG	UM		GT-F1	FM4		
		FB,LU (FP,FK)	FP,FM FV,SQ	PSF,PF,23 SS,JSS	GP,XP,PP MQ,DP	JQ,MP	ZR	PF,UF MF,XF	11,UF,MF KF,XF	FF1	FP4	PF	FA,FX
	Finishing (Wiper Edge)	**SDW**						WK,WM	MW	W-F2		WG	
		LUW	SW		WP			WF	FW	W-F1	PF	WF	WT
	Finishing to Light Cutting	**SI**	SMG	JS,CM,PSS	CK,SKS		YL,1L						SA
		LB	LP,LM		XQ		AM2		LF				
	Light to Medium Cutting	**SC**			GQ, SK, Standard		AF1,CL		MP	MF2			
		SU,GU (SK,SF)	SV,MQ	PS,TSF TM	HQ,XQ GK	JE	AZ8,AM2 AM5	PM,UM XM		F1	MP4,MM4 FP6,PM5	SM,14	FG,PC
	Medium Cutting	**MU**	MP,MM MK,MV	PM				PR,UR,MMC MPC,XR	MF	F2,M3 M5	RP4,RM4	19	MT,PMR
M Stainless Steel	Finishing	**FC**	FM,FV	PSF,PF SS,JSS			AZ7	MF,XF	11,UF	FF1	FM4	PF	FA,FX
	Finishing to Light Cutting	**SI**	SMG				YL,1L,CL	UF	LF,FP				FG
		LB	LM		MQ					F1			
	Light to Medium Cutting	**SU,GU**	SV		HQ		AM5	MM	MP	MF2	MM4,PS5	SM	PC
	Medium Cutting	**MU**	MM, MV, Blank	PM				UM,MR XR,UR	MF	F2,M3 M5	PM5,RM4		MT,PMR
K Cast Iron	Finishing	**FC**		CF				KF,XF	11,UF		FK6		
	Light to Medium Cutting	**MU**	MK				AF1,FM	KM,UM,XR	FP,LF MF,MP	M5	MK4,RK4		MT
N Non-Ferrous Metal	Finishing	**AG,AW,AY**	AZ	AL,PP	AH,AP			AL	HP	AL	PM2	AS,AF	FL
	Finishing to Light Cutting	**LD*,GD***											SA
S Exotic Alloy	Finishing	**FC,SI**	FS	PSS	PP,MQ			WF,MF					
	Light to Medium Cutting	**SU,GU**	LS,MS	PS,PM	HQ,GK			UM,PM		MF2,R2 R3	FV4,MV4		
H Hardened Steel	Finishing	**FV***		HP*									
	Light Cutting	**LV***	BF*										

( ) indicates a discontinued item. *mark indicates CBN/PCD tool breaker

Note: The above data was collected from various published catalogues. The information may therefore not be up to date.

Chipbreaker Selection

Negative Type — Finishing to Medium Cutting

Fine Finishing

FB Type — P M K N S H
Provides excellent chip control and sharp edge needed for low feed machining
0.80 / 27° / CNMG1204 ○○ Type
C D R S T V W

FA Type — P M K N S H
Profile breaker perfect for fine finishing
1.0 / 20° / CNMG1204○○Type
C D R S T V W

FL Type — P M K N S H
Optimal breaker for chip control on rolled steel
1.0 / 10° / CNMG1204 ○○ Type
C D R S T V W

FE Type — P M K N S H
Excellent chip control for low to high feed machining
1.40 / 0.70 / 20° / CNMG1204 ○○ Type
C D R S T V W

Finishing

LU Type — P M K N S H
Effective chip control for variable depths of cut and profiling
1.5 / 1.0 / 10° / CNMG1204 ○○ Type
C D R S T V W

SU Type — P M K N S H
Effective at high feed and low depth of cut
1.3 / 13° / CNMG1204 ○○ Type
C D R S T V W

SE Type — P M K N S H
Finishing breaker reduces tool wear on rake face. Effective even for high-efficiency machining
0.1 / 1.5 / 5° / 17° / CNMG1204 ○○ Type
C D R S T V W

EF Type — P M K N S H
Exotic alloy finishing breaker with excellent chip control
1.2 / 20° / CNMG1204 ○○ Type
C D R S T V W

LUW Type — P M K N S H
High-efficiency finishing breaker with Wiper Edge
Wiper Insert
1.5 / 1.0 / 10° / CNMG1204 ○○ Type
C D R S T V W

SEW Type — P M K N S H
New high-feed finishing breaker with Wiper Edge
Wiper Insert
0.13 / 1.9 / 17° / 5° / CNMG1204 ○○ Type
C D R S T V W

FX Type — P M K N S H
Parallel breaker with superior sharp edge
1.5 / 14° / TNGG1604 ○○ Type
C D R S T V W

FY Type — P M K N S H
Wide breaker with sharp edge
2.5 / 15° / TNGG1604 ○○ Type
C D R S T V W

FT Type — P M K N S H
Arc-shaped ground type finishing chipbreaker
0.15 / 1.35 / TNGG1103 ○○ Type
C D R S T V W

Light to Medium Cutting

SJ Type — P M K N S H
Standard chipbreaker with excellent cutting edge strength
0.18 / 1.2 / SNMG1204 ○○ Type
C D R S T V W

ST Type — P M K N S H
Arc-shaped ground type breaker for light cutting
0.15 / 1.65 / TNGG1603 ○○ Type
C D R S T V W

GX Type — P M K N S H
Double positive chipbreaker providing superior sharpness
1.5 / 15° / SNGG1204 ○○ Type
C D R S T V W

SX Type — P M K N S H
Perform profiling and raise steps
0.2 / 1.35 / 3° / 15° / CNMG1204 ○○ Type
C D R S T V W

EX Type — P M K N S H
Standard chipbreaker designed especially for use with exotic alloys
2.0 / 16° / CNMG1204 ○○ Type
C D R S T V W

UP Type — P M K N S H
Double positive edge for optimal stainless steel cutting
2.1 / 10° / CNMG1204 ○○ Type
C D R S T V W

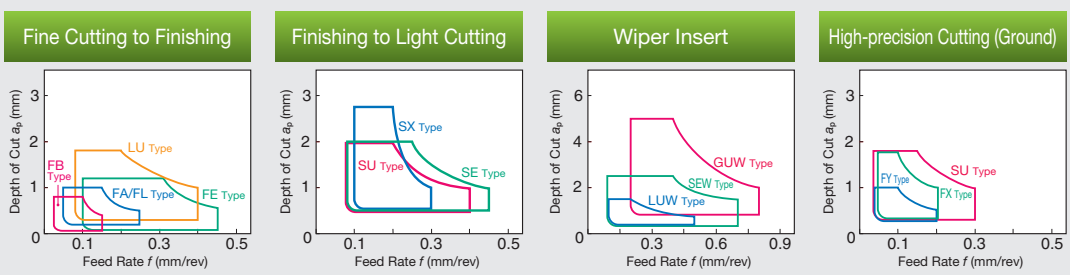
Legend

Chipbreaker — GU Type — P M K N S H — Low resistance wear-resistant chipbreaker — Work Material / Features
Photo
0.25 / 2.05 / 25° / 7° / CNMG1204○○ Type — Typical Cross Section Shape
Relief Angle — 0°
Shapes In Stock — C D R S T V W — Cat. No. for Cross Section

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BreakMaster (CBN/PCD) | Chamfering

Applicable Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range (Inscribed Circle of Insert up to ø12.7mm)

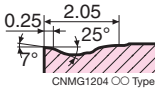


Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number. For details, refer to "Stock Items" in Chapter B.

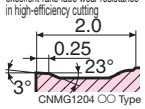
Chipbreaker Selection

Negative Type — Medium Cutting to Roughing

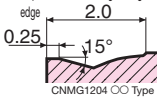
For Medium Cutting

GU Type — P M K N S H
Low resistance, wear-resistant chipbreaker


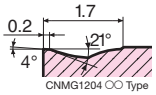
C D R S T V W

GE Type — P M K N S H
A versatile chipbreaker with excellent rake face wear resistance in high-efficiency cutting


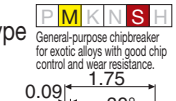
C D R S T V W

UX Type — P M K N S H
Extremely reliable and versatile chipbreaker with strong cutting edge


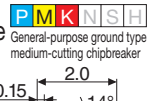
C D R S T V W

UG Type — P M K N S H
Highly versatile, long-selling product


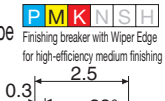
C D R S T V W

EG Type — P M K N S H
General-purpose chipbreaker for exotic alloys with good chip control and wear resistance.


C D R S T V W

UM Type — P M K N S H
General-purpose ground type medium-cutting chipbreaker


C D R S T V W

GUW Type — P M K N S H
Finishing breaker with Wiper Edge for high-efficiency medium finishing
Wiper Insert


C D R S T V W

Medium to Roughing

EM Type — P M K N S H
Breaker with excellent fracture and crater resistance


C D R S T V W

MU Type — P M K N S H
Economical double-sided breaker with low cutting resistance for high-feed cutting


C D R S T V W

ME Type — P M K N S H
Chipbreaker for rough cutting that supports high-feed cutting with reduced rake face wear.

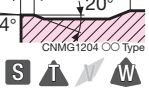

C D R S T V W

MX Type — P M K N S H
Strong cutting edge for interrupted cutting

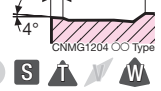

C D R S T V W

UZ Type — P M K N S H
Standard chipbreaker with stable cutting performance

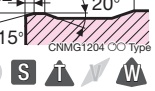

C D R S T V W

GZ Type — P M K N S H
Extremely reliable standard chipbreaker with strong cutting edge


C D R S T V W

HM Type — P M K N S H
Wide, M class, handed breaker with low cutting resistance for medium to rough cutting.


C D R S T V W

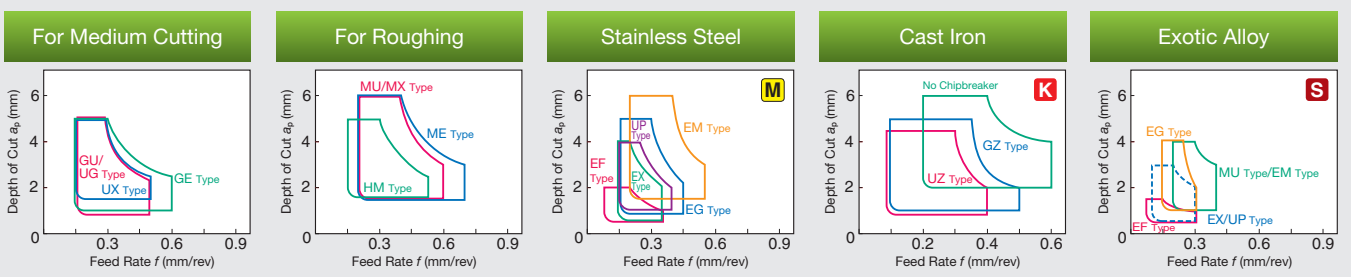
MM Type — P M K N S H
Ground breaker with wide and gentle rake angle


C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BreakMaster (CBN/PCD) | Chamfering

Applicable Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range (Inscribed Circle of Insert up to ø12.7mm)



Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number. For details, refer to "Stock Items" in Chapter B.

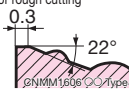
Chipbreaker Selection

Negative Type Roughing

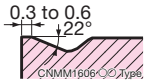
Rough to Heavy Cutting

HG Type — P M K N S H
Excellent chip control for heavy cutting

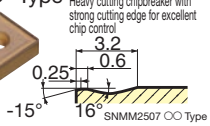
MP Type — P M K N S H
Single-sided chipbreaker with low cutting resistance for rough cutting



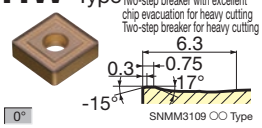
HP Type — P M K N S H
Strongest cutting edge for heavy cutting



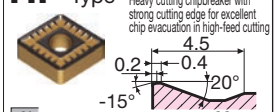
HU Type — P M K N S H
Heavy cutting chipbreaker with strong cutting edge for excellent chip control



HW Type — P M K N S H
Two-step breaker with excellent chip evacuation for heavy cutting
Two-step breaker for heavy cutting



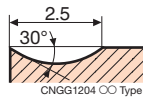
HF Type — P M K N S H
Heavy cutting chipbreaker with strong cutting edge for excellent chip evacuation in high-feed cutting



Negative Type Aluminum Alloy Cutting

Finishing

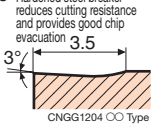
AX Type — P M K N S H
Parallel Al chipbreaker with sharp edge



Negative Type Hardened Steel Cutting

Finishing

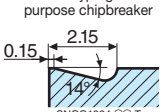
GH Type — P M K N S H
Hardened steel breaker reduces cutting resistance and provides good chip evacuation



Negative Type Chamfering

Chamfering

C Type — P M K N S H
Ground type general-purpose chipbreaker

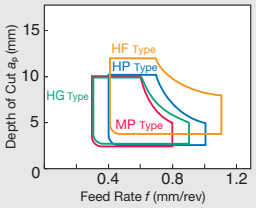


Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BreakMaster (CBN/PCD) | Chamfering

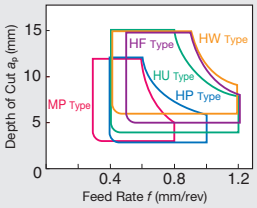
Applicable Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

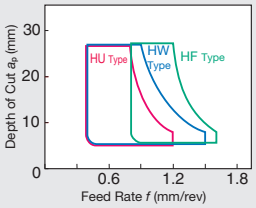
Rough to Heavy Cutting (Inscribed Circle ø15.875 to 19.05mm)



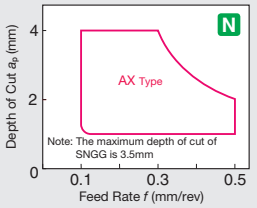
Rough to Heavy Cutting (Inscribed Circle ø25.4mm)



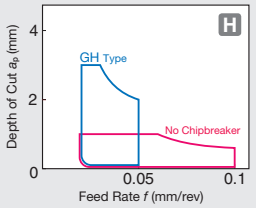
Rough to Heavy Cutting (Inscribed Circle ø31mm)



Aluminum Alloy



Hardened Steel

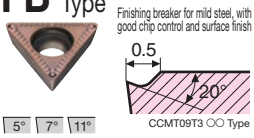


Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number. For details, refer to "Stock Items" in Chapter B.

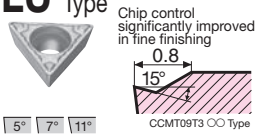
Chipbreaker Selection

Positive Type M Class (Finishing to Medium Cutting)

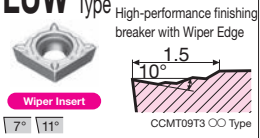
Finishing to Light Cutting

FB Type — P M K N S H
Finishing breaker for mild steel, with good chip control and surface finish


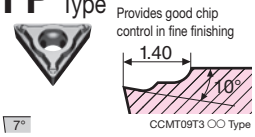
5° 7° 11° — C D R S T V W

LU Type — P M K N S H
Chip control significantly improved in fine finishing


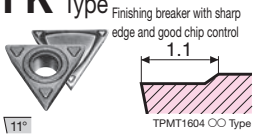
5° 7° 11° — C D R S T V W

LUW Type — P M K N S H
High-performance finishing breaker with Wiper Edge


Wiper Insert
7° 11° — C D R S T V W

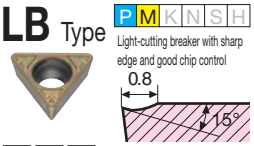
FP Type — P M K N S H
Provides good chip control in fine finishing


7° — C D R S T V W

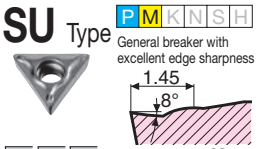
FK Type — P M K N S H
Finishing breaker with sharp edge and good chip control


11° — C D R S T V W

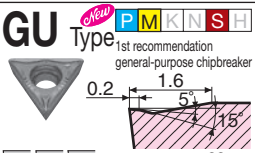
Light to Medium Cutting

LB Type — P M K N S H
Light-cutting breaker with sharp edge and good chip control


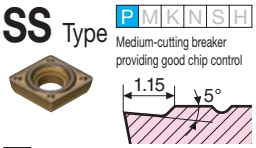
5° 7° 11° — C D R S T V W

SU Type — P M K N S H
General breaker with excellent edge sharpness


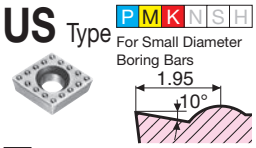
5° 7° 11° — C D R S T V W

GU Type — New — P M K N S H
1st recommendation general-purpose chipbreaker


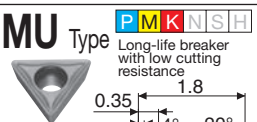
5° 7° 11° — C D R S T V W

SS Type — P M K N S H
Medium-cutting breaker providing good chip control


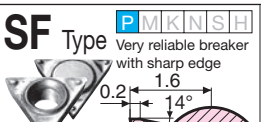
11° — C D R S T V W

US Type — P M K N S H
For Small Diameter Boring Bars


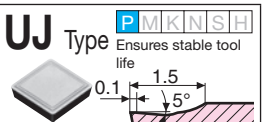
11° — C D R S T V W

MU Type — P M K N S H
Long-life breaker with low cutting resistance


7° 11° — C D R S T V W

SF Type — P M K N S H
Very reliable breaker with sharp edge


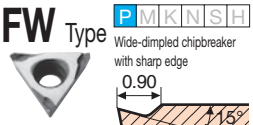
11° — C D R S T V W

UJ Type — P M K N S H
Ensures stable tool life


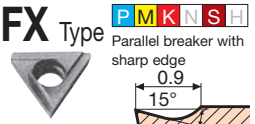
11° — C D R S T V W

Positive Type G Class (Ground Type)

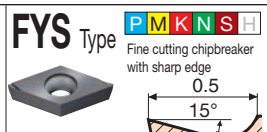
Finishing to Light Cutting

FW Type — P M K N S H
Wide-dimpled chipbreaker with sharp edge


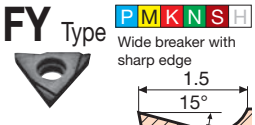
5° 11° — C D R S T V W

FX Type — P M K N S H
Parallel breaker with sharp edge


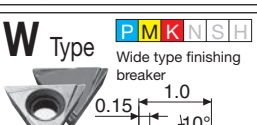
5° 7° 11° — C D R S T V W

FYS Type — P M K N S H
Fine cutting chipbreaker with sharp edge


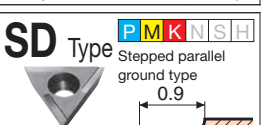
5° 7° — C D R S T V W

FY Type — P M K N S H
Wide breaker with sharp edge


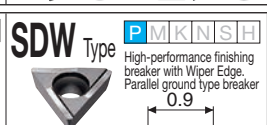
5° 7° 11° — C D R S T V W

W Type — P M K N S H
Wide type finishing breaker


5° 11° — C D R S T V W

SD Type — P M K N S H
Stepped parallel ground type


7° 11° — C D R S T V W

SDW Type — P M K N S H
High-performance finishing breaker with Wiper Edge. Parallel ground type breaker


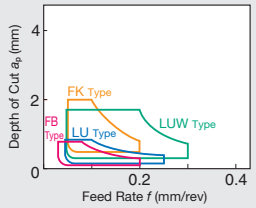
Wiper Insert
11° — C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BreakMaster (CBN/PCD) | Chamfering

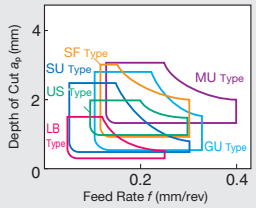
Applicable Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

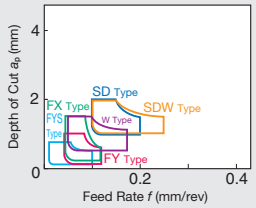
M Class Finishing to Light Cutting



M Class Light to Medium Cutting



G Class Ground Type



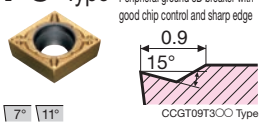
Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number. For details, refer to "Stock Items" in Chapter B.

Chipbreaker Selection

Positive Type G Class

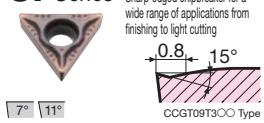
Finishing to Light Cutting

FC Type — P M K N S H
Peripheral ground 3D breaker with good chip control and sharp edge



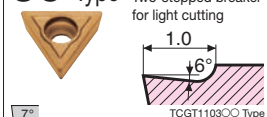
C D R S T V W

SI Series — P M K N S H
Sharp-edged chipbreaker for a wide range of applications from finishing to light cutting



C D R S T V W

SC Type — P M K N S H
Two-stepped breaker for light cutting

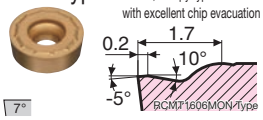


C D R S T V W

Positive Type Round Type Inserts

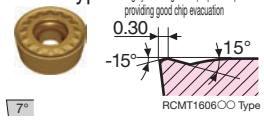
Round Type

RX Type — P M K N S H
Round, bumpy type insert with excellent chip evacuation



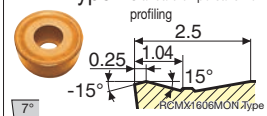
C D R S T V W

RH Type — P M K N S H
Highly reliable general-purpose chipbreaker providing good chip evacuation



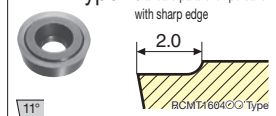
C D R S T V W

RP Type — P M K N S H
Standard chipbreaker for profiling



C D R S T V W

RD Type — P M K N S H
Standard parallel chipbreaker with sharp edge

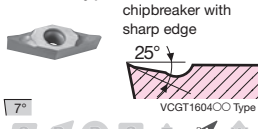


C D R S T V W

Positive Type Aluminum Alloy Cutting

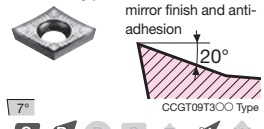
Finishing

AW Type — P M K N S H
Finishing Al chipbreaker with sharp edge



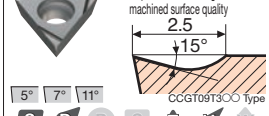
C D R S T V W

AG Type — P M K N S H
Al chipbreaker for mirror finish and anti-adhesion



C D R S T V W

AY Type — P M K N S H
High-quality ground aluminum chipbreaker achieving excellent machined surface quality



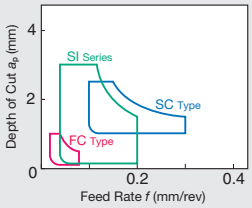
C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BreakMaster (CBN/PCD) | Chamfering

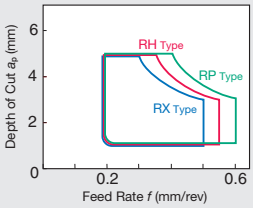
Applicable Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

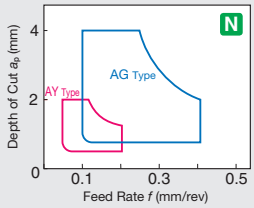
G Class Chipbreaker



Round Type Inserts (Inscribed Circle up to 12.7mm)



Aluminum Alloy



Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number. For details, refer to "Stock Items" in Chapter B.

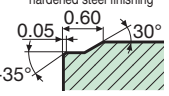
Chipbreaker Selection

SUMIBORON Insert — CBN

Finishing to Light Cutting

LV Type — P M K N S H

Dramatically improves chip evacuation during hardened steel finishing

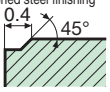


BreakMaster 0° 7°

C D R S T V W

FV Type — P M K N S H

Dramatically improves chip evacuation during hardened steel finishing



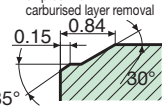
BreakMaster 0° 7°

C D R S T V W

Carburised Layer Removal

SV Type — P M K N S H

Significantly improved chip control with carburised layer removal



BreakMaster 0°

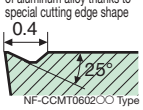
C D R S T V W

SUMIDIA Insert — PCD

Finishing to Light Cutting

LD Type — P M K N S H

Ideal breaker for finishing of aluminum alloy thanks to special cutting edge shape



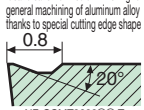
NF-CCMT0602○○ Type

BreakMaster 7° 11°

C D R S T V W

GD Type — P M K N S H

Ideal breaker for medium finishing to general machining of aluminum alloy thanks to special cutting edge shape



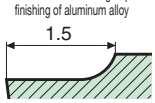
NF-CCMT0602○○ Type

BreakMaster 7° 11°

C D R S T V W

DM Type — P M K N S H

Perfect breaker for high-speed finishing of aluminum alloy



NU-CCMT09T3○○ Type

BreakMaster 7° 11°

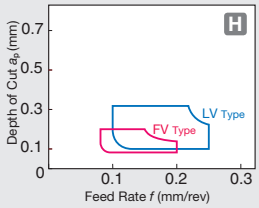
C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BreakMaster (CBN/PCD) | Chamfering

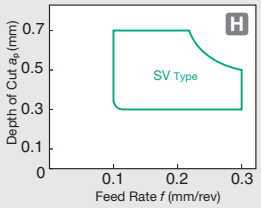
Applicable Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

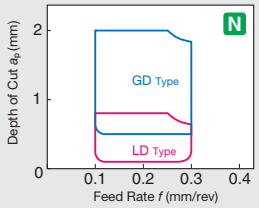
SUMIBORON (Hardened Steel) (Inscribed Circle up to 12.7mm)



SUMIBORON (Carburised Layer Removal) (Inscribed Circle up to 12.7mm)



SUMIDIA (Aluminum Alloy)



Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number. For details, refer to "Stock Items" in Chapter B.

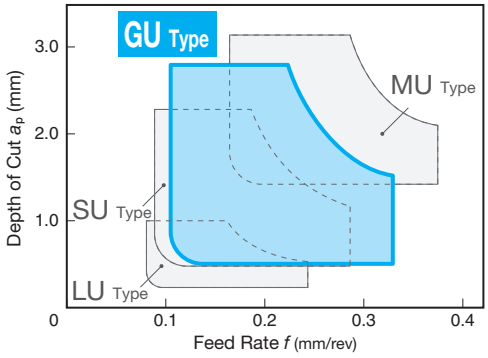
GU Type

P Steel M Stainless Steel S Exotic Alloy

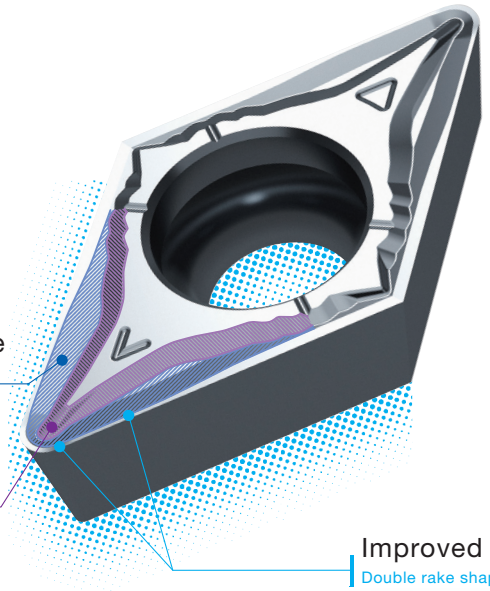
New

· Superb versatility handles processes from roughing to finishing.
· Stable machining is realised across a range of conditions through excellent cutting edge sharpness and strength.
· Item range covers a wide variety of applications.

■ **Application Range**



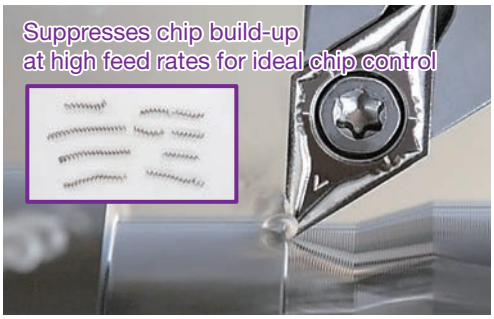
Features

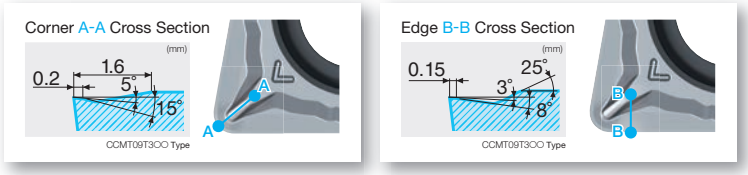


Excellent Chip Evacuation Performance
Wide chip pocket supports various cutting conditions

Low Resistance Suppresses Chatter
Protrusion design controls chip flow

Improved Fracture Resistance
Double rake shape with excellent sharpness and hardness

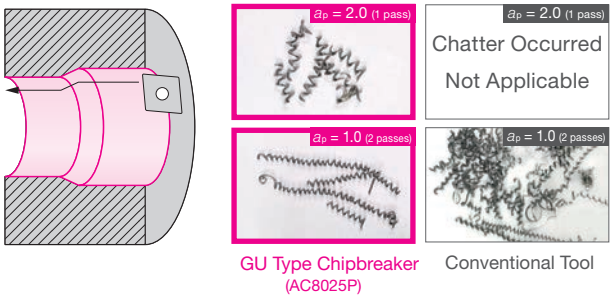




Application Examples

Improves machining efficiency through reducing chip entanglement

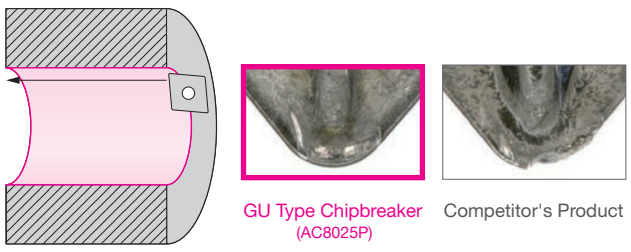
Work Material: Automotive Parts (SCM420H) Internal Tappered Boring
Insert: CPMT090308N-GU (AC8025P)
Cutting Conditions: v_c = 200m/min, f = 0.2mm/rev, a_p = 2.0mm Wet



GU Type Chipbreaker (AC8025P)
Conventional Tool

Strong cutting edge design realizes 1.5 times the tool life

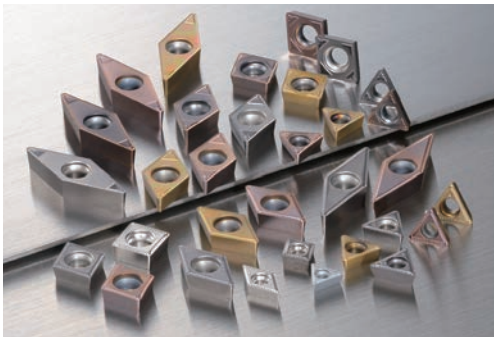
Work Material: Fastening Parts (SCr415) Internal Boring
Insert: CCMT09T308N-GU (AC8025P)
Cutting Conditions: v_c = 190m/min, f = 0.25mm/rev, a_p = 1.0mm Wet



GU Type Chipbreaker (AC8025P)
Competitor's Product

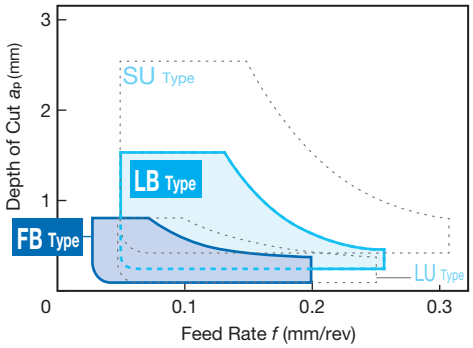
FB/LB Type

P Steel

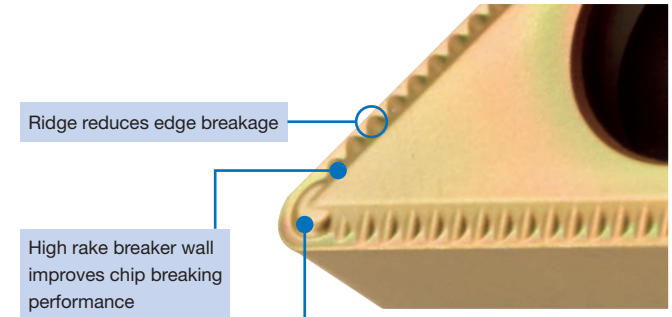


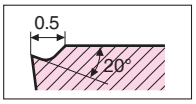
- FB Type for finishing and LB Type for light cutting have been added to the chipbreaker series for low carbon and general steel machining in addition to the existing LU Type for finishing and SU Type for light cutting.
- The FB and LB type chipbreakers improve chip control in finishing of low carbon and general steel.

■ **Application Range**



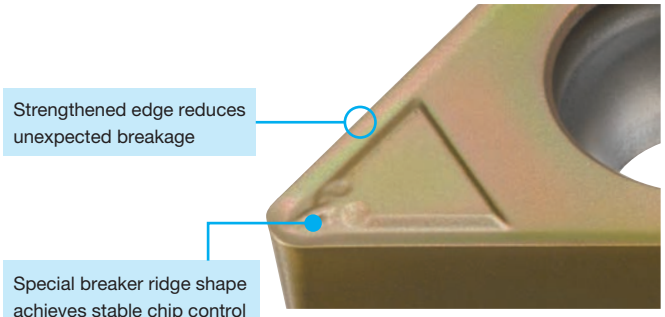
FB Type Breaker for Finishing

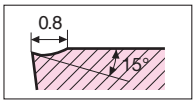




Cross Section of Chipbreaker

LB Type Breaker for Light Cutting





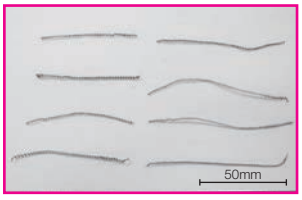
Cross Section of Chipbreaker

Cutting Performance

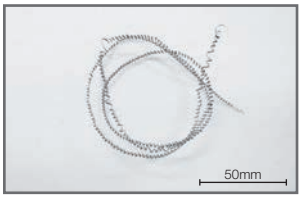
Chip Control

Work Material: Pipe material (STKM13A) ø30 Internal Boring Insert: TPMT110304N-FB (T1500A)
Cutting Conditions: v_c = 100m/min, f = 0.12mm/rev, a_p = 0.1mm Wet

Achieves stable chip control at shallow depths of cut and low feeds



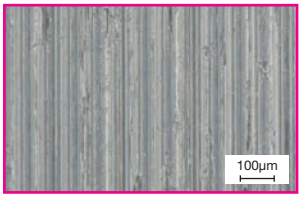
FB Type Chipbreaker (T1500A)



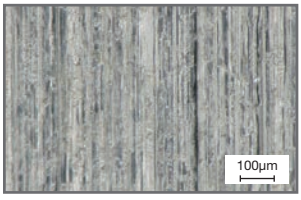
Competitor's Product

Comparison of Surface Roughness of Finished Surfaces

Work Material: Pipe material (STKM13A) ø100 Internal Boring Insert: TPMT110304N-FB (T1500A)
Cutting Conditions: v_c = 200m/min, f = 0.07mm/rev, a_p = 0.1mm Wet



FB Type Chipbreaker (T1500A)



Competitor's Product

Cutting Performance

Chip Control (1)

Work Material: Pipe material (STKM13A) ø30 Internal Boring Insert: TPMT110304N-LB (T1500A)
Cutting Conditions: v_c = 200m/min, f = 0.15mm/rev, a_p = 0.5mm Wet

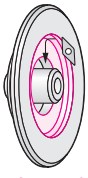
Achieves stable chip control in light cutting

LB Type Chipbreaker (T1500A)

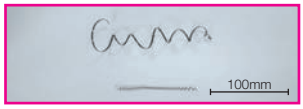
Competitor's Product

Chip Control (2)

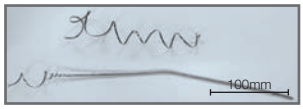
Work Material: Hub (S45C) Insert: VBMT160408N-LB (T1500A)
Cutting Conditions: v_c = 240m/min, f = 0.25 to 0.28mm/rev, a_p = 0.6mm Wet



LB Type Chipbreaker (T1500A)

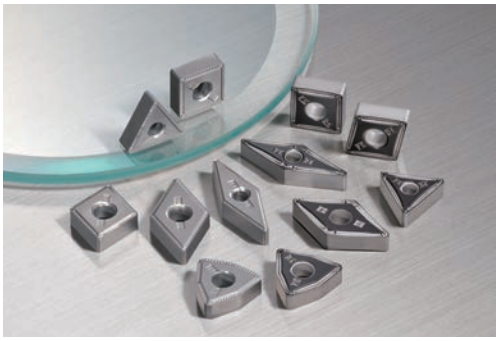


Competitor's Product



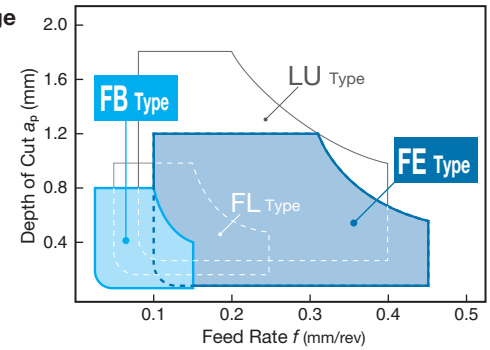
Doubles the tool life by improving chip control and reducing blemishes on machined surfaces

FB/FE Type P Steel



- The FE type main breaker for finishing achieves stable chip control over a wide range of feed rates for low carbon steel and general steel.
- Item range covers a wide variety of machining applications.
- The FB type for low feed finishing increases chip strain and thereby improves chip breaking performance thanks to the variable rake angle in the corner radius.

■ **Application Range**



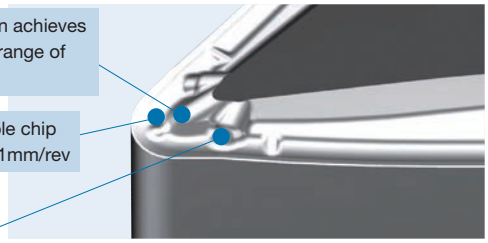
FE Type Chipbreaker for Finishing

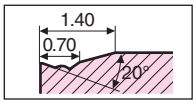
General-purpose to high feed cutting

Arc-shaped main breaker design achieves stable chip control over a wide range of feed rates

Two-step breaker achieves stable chip control at low feed rates of f=0.1mm/rev

Sub breaker for chip control during profiling





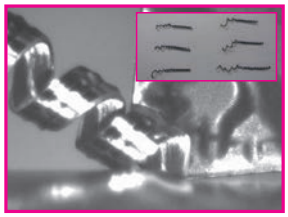
Cross Section of Chipbreaker

Cutting Performance

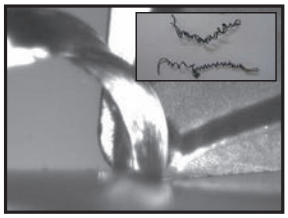
Chip Control

Work Material: Pipe material (STKM13A) Insert: CNMG120408N-FE (AC8025P)
Cutting Conditions: v_c = 200m/min, f = 0.4mm/rev, a_p = 0.2mm Dry

Excellent chip control at low depth of cut, high feed conditions



FE Type Breaker (AC8025P)



Conventional Tool

Application Examples

Work Material: Iron plate (SPHC440) Facing, Insert: CNMG120408N-FE (AC8025P)
Cutting Conditions: v_c=200m/min, f=0.15mm/rev, a_p=0.2-0.5mm Wet

Breaks chips with a steady curl even in facing of rolled steel

FE Type Breaker (AC8025P)

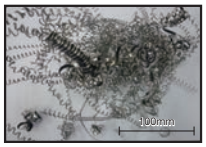
Competitor's Product

Application Examples

Work Material: S53C ø20-100 External Turning/Facing, Insert: DNMG150412N-FE(AC8025P)
Cutting Conditions: v_c=180m/min, f=0.25mm/rev (Corner), 0.45mm/rev (Straight), a_p=0.3mm Wet

Stable chip control even at low depth of cut and variable feed conditions

FE Type Breaker (AC8025P)



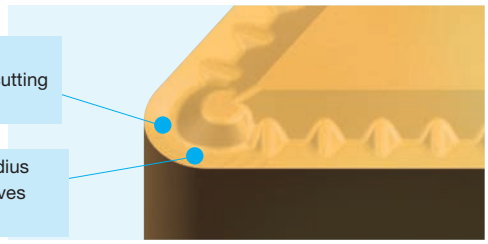
Conventional Tool

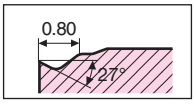
FB Type Chipbreaker for Low Feed Finishing

Low feed cutting

High-rake and smooth breaker connection achieves ultra-low cutting resistance

Variable rake angle in corner radius increases chip strain and improves chip breaking performance



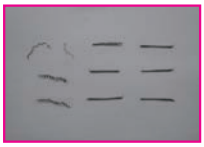


Cross Section of Chipbreaker

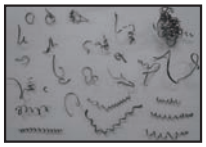
Application Examples

Work Material: Pipe material (STKM13C) Internal Boring, Insert: DNMG150404N-FB (T3000Z)
Cutting Conditions: v_c=352m/min, f=0.03-0.2mm/rev, a_p=0.7mm Wet

Small curls of chips even for pipe material, achieving a steady chip length



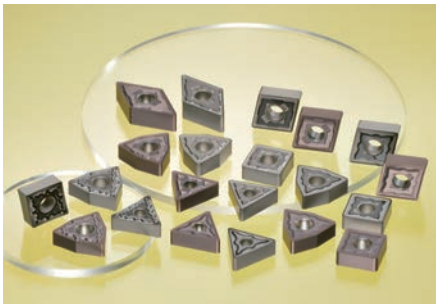
FB Type Chipbreaker (T3000Z)



Competitor's Product

EF/EG/EM Type

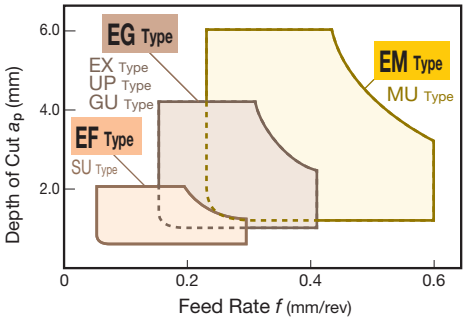
M Stainless Steel S Exotic Alloy



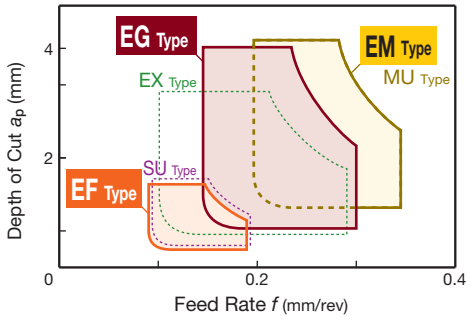
- The chipbreaker series for stainless steel machining features EF type for finishing, EG type for medium cutting and EM type for roughing.
- The EM type achieves both excellent wear resistance and high cutting edge strength.
- The EG and EF type breakers are ideal for a variety of exotic alloys including titanium alloy and heat-resistant alloys.
- Achieves both excellent wear resistance and strong chip control, reducing issues with equipment and quality that occur with conventional chipbreakers due to unstable tool life and chips.

■ Application Range

Turning of Stainless Steel

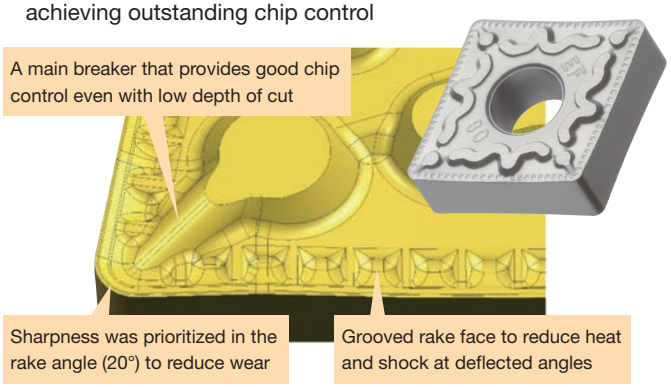


Turning of Exotic Alloys



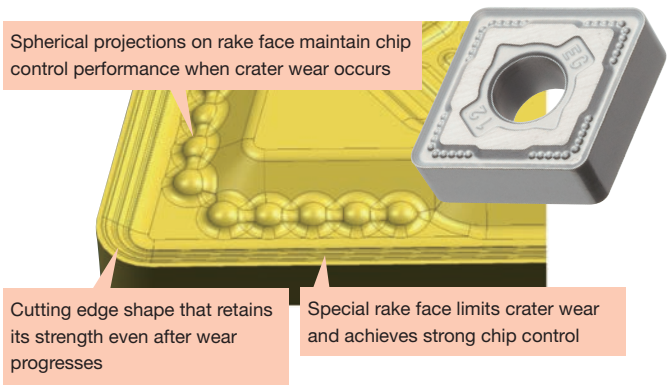
EF Type Chipbreaker for Finishing

● Reduces curl diameter of chips during finishing, achieving outstanding chip control



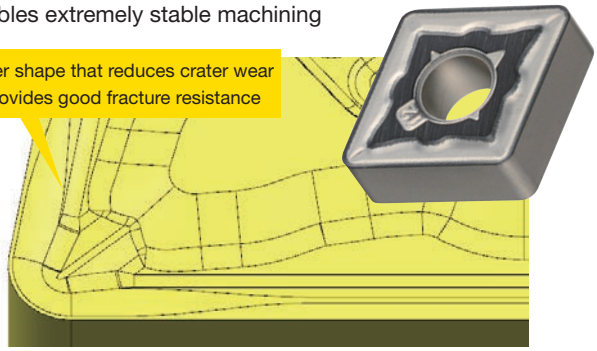
EG Type Chipbreaker for Medium Cutting

● Achieves excellent wear resistance and chip control in general-purpose to medium cutting. Highly versatile performance

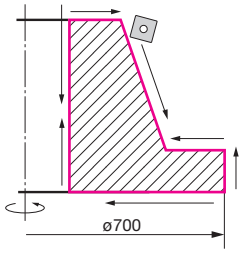


EM Type Chipbreaker for Roughing

● Achieves excellent fracture and crater wear resistance and enables extremely stable machining

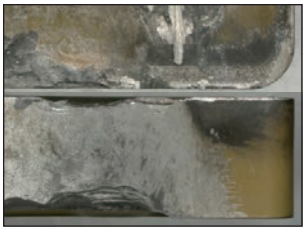


Cutting Performance



Work Material: Stainless Cast Steel (Equivalent to SUS316) Flange part
Insert: SNMG190616 (AC6030M)
Cutting Conditions: v_c=70m/min
f=0.5mm/rev, a_p=0.3 to 8.0mm Wet

EM Type Chipbreaker (AC6030M)

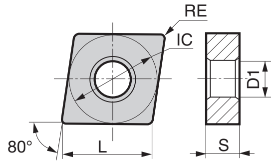


Conventional Tool

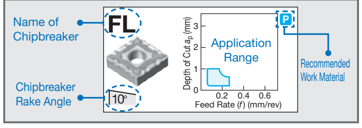
Reduces cutting edge breakage and enables stable machining

80° Diamond Type Negative Inserts

CN 80° Diamond Type Neg. With Hole



Information in "Shape" column



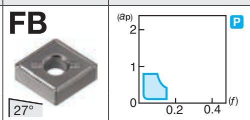
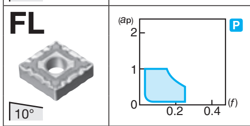
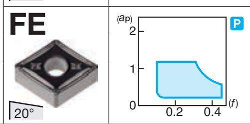
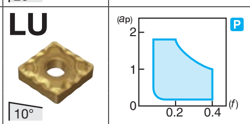
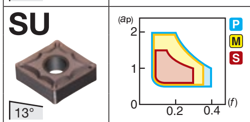
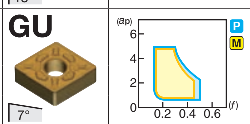
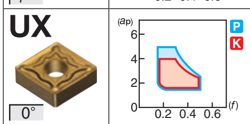
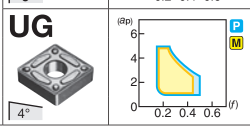
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◕ : General Cutting 1st Recommendation
◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✣ : Interrupted Cutting 2nd Recommendation

CN■■0903●●

Dimensions (mm)				
	Cutting Edge Length L	9.7	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Applicable External Holders ☞ C9 Applicable Internal Holders ☞ E23 to E25

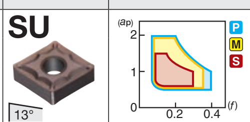
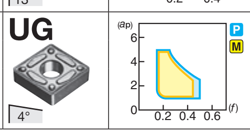
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔	◕	✖	○	◔	✣		◔			◔									✣		✣	◕			◕	✖	✣	●	◕							
M Stainless Steel				✣			✣	●	◕	✖	○	◔									✣		✣	◕	✣													
K Cast Iron			✣			✣							●	◕	✖	○	◔			✣		✣		◕						●								
N Non-Ferrous Metal																																						◕
S Exotic Alloy																			●	◕	✖	◔	✣	✣														
H Hardened Steel																		●																				

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide							
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB  27°	P	CNMG 090304N-FB	0.4	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲		●	—	—	—	—	—	—	
			090308N-FB	0.8	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲		●	—	—	—	—	—	—	
Fine Cutting	FL  10°	P	CNMG 090308N-FL	0.8			●			●						●						—						—		—	—	—	—	—	—							—
Fine Cutting	FE  20°	P	CNMG 090304N-FE	0.4	●	○	●	●	●		●		●	●								—						—		—	●	●	▲		●							
			090308N-FE	0.8	●	○	●	●	●		●		●	●								—						—		—	●	●	▲		●							
Finishing	LU  10°	P	CNMG 090304N-LU	0.4	●	○	●		●	●			●			●						—						—		—	●	●	▲		●							
			090308N-LU	0.8	●	○	●		●	●			●			●						—						—		—	●	●	▲		●							
Finishing	SU  13°	P M S	CNMG 090304N-SU	0.4	●	○	●			●												—						—		—	—	—	—	—	—							—
			090308N-SU	0.8	●	○	●			●												—						—		—	—	—	—	—	—							—
Medium Cutting	GU  7°	P M	CNMG 090304N-GU	0.4	●	○	●	●		●	●						●	●				—						—		—	—	—	—	—	—							—
			090308N-GU	0.8	●	○	●	●		●	●						●	●				—						—		—	—	—	—	—	—							—
Medium Cutting	UX  0°	P K	CNMG 090304N-UX	0.4				●			●											—						—		—	—	—	—	—	—							—
			090308N-UX	0.8				●			●											—						—		—	—	—	—	—	—							—
Medium Cutting	UG  4°	P M	CNMG 090304N-UG	0.4			●	●		●	●											—						—		—	—	—	—	—	—							—
			090308N-UG	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—

CN■■09T3●●

Dimensions (mm)				
	Cutting Edge Length L	9.7	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

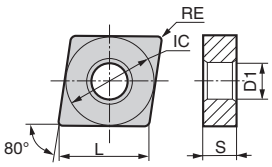
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔	◕	✖	○	◔	✣		◔			◔									✣		✣	◕			◕	✖	✣	●	◕							
M Stainless Steel				✣			✣	●	◕	✖	○	◔									✣		✣	◕	✣													
K Cast Iron			✣			✣							●	◕	✖	○	◔			✣		✣		◕						●								
N Non-Ferrous Metal																																						◕
S Exotic Alloy																			●	◕	✖	◔	✣	✣														
H Hardened Steel																		●																				

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide							
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SU  13°	P M S	CNMG 09T304N-SU	0.4	●	○	●			●												—						—		—	—	—	—	—	—							—
			09T308N-SU	0.8	●	○	●			●												—						—		—	—	—	—	—	—							—
Medium Cutting	UG  4°	P M	CNMG 09T304N-UG	0.4			●			●												—						—		—	—	—	—	—	—							—
			09T308N-UG	0.8			●			●												—						—		—	—	—	—	—	—							—

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

CN 80° Diamond Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

CN■■0904●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application

		Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide								
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✪	●	◔	✖	○	◔											✪	✪	●		◔	✖	✪	●	◔							
M	Stainless Steel			✪			✪	●	◔	✖	○	◔										✪		✪	✪	●	✪											
K	Cast Iron			✪			✪							●	◔	✖	○	◔				✪		✪		●				●								
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	◔	✖	✪	◔	✪	✪													
H	Hardened Steel																	●																				

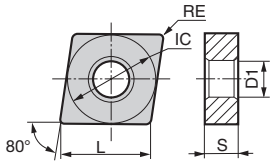
Applicable External Holders ☞ C9

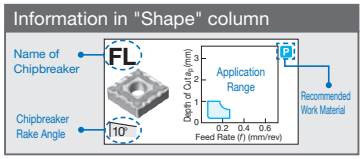
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°	(ap) 2 1 0 0.2 0.4 (f) P	CNMG 090404N-FB	0.4										●																●	●	▲		●						
			090408N-FB	0.8										●																●	●	▲		●						
	FE 20°	(ap) 2 1 0 0.2 0.4 (f) P	CNMG 090404N-FE	0.4	●	○	●	●	●		●		●	●															●	●	▲		●						
			090408N-FE	0.8	●	○	●	●	●		●		●	●															●	●	▲		●						
Finishing	**SU** 13°	(ap) 2 1 0 0.2 0.4 (f) P M S	CNMG 090404N-SU	0.4	●	○	●		●	●	●																		●			●	●						
			090408N-SU	0.8	●	○	●		●	●	●																		●			●	●						
			090412N-SU	1.2	●	○	●	●	●		●																		●			●	●						
	SEW →B135 Wiper 5°	(ap) 4 2 0 0.2 0.5 0.8 (f) P	CNMG 090404N-SEW	0.4	●	○	●	●	●		●																												
			090408N-SEW	0.8	●	○	●	●	●		●																												
	EF 20°	(ap) 2 1 0 0.2 0.4 (f) M S	CNMG 090404N-EF	0.4								●	●	●								○	●	●																
			090408N-EF	0.8								●	●	●								○	●	●																
Medium Cutting	**GU** 7°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	CNMG 090404N-GU	0.4			●		●		●																		●			●	●						
			090408N-GU	0.8			●		●		●																		●			●	●						
			090412N-GU	1.2	●	○	●	●	●		●						●	●											●			●	●						
	UG 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	CNMG 090404N-UG	0.4			●			●																												
			090408N-UG	0.8			●	●		●	●																												
	EG 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) M	CNMG 090408N-EG	0.8								●	●	●								○	●	●																
			090412N-EG	1.2								●	●	●								○	●	●																
Medium to Roughing	**GZ** 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	CNMG 090408N-GZ	0.8													●	●	●	▲	▲																			
			090412N-GZ	1.2													●	●	●	▲	▲																			

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

CN 80° Diamond Type / Neg. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.9	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application

P	Steel	● ◔ ● ✖ ○ ◔ ✖ ◔ ● ✖ ○ ◔
M	Stainless Steel	✖ ✖ ✖ ✖ ✖ ● ● ✖ ○ ◔
K	Cast Iron	✖ ✖ ✖ ● ● ✖ ○ ◔ ✖ ✖ ✖ ● ✖
N	Non-Ferrous Metal	●
S	Exotic Alloy	● ● ✖ ◔ ✖ ✖ ✖
H	Hardened Steel	●

SUMIBORON (CBN) Inserts ☞L32 on | SUMIDIA (PCD) Inserts ☞M10
Ceramic Inserts ☞B132
Applicable External Holders ☞C8 to C10 | Applicable Internal Holders ☞E15, E23 to E25

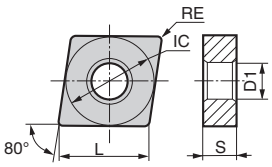
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°		CNMG 120402N-FB	0.2										●																●	●	▲	●	●						
			120404N-FB	0.4										●																●	●	▲	●	●						
			120408N-FB	0.8										●																●	●	▲	●	●						
	FA 20°		CNMG 120402N-FA	0.2																										●	●	▲	●	●						
			120404N-FA	0.4																										●	●	▲	●	●						
			120408N-FA	0.8																										●	●	▲	●	●						
	FL 10°		CNMG 120404N-FL	0.4			●			●						●						○	●	●		●				●	●	▲	●	●						
			120408N-FL	0.8			●			●						●						○	●	●		●				●	●	▲	●	●						
	FE 20°		CNMG 120402N-FE	0.2	●	○	●	●	●		●		●	●																●	●	▲	●	●						
			120404N-FE	0.4	●	○	●	●	●		●		●	●																●	●	▲	●	●						
			120408N-FE	0.8	●	○	●	●	●		●		●	●																●	●	▲	●	●						
			120412N-FE	1.2	●	○	●	●	●		●		●	●																●	●	▲	●	●						
Finishing	**LU** 10°		CNMG 120402N-LU	0.2									●			●														●	●	▲	●	●						
			120404N-LU	0.4	●	○	●	●	●	●	●		●			●														●	●	▲	●	●						
			120408N-LU	0.8	●	○	●	●	●	●	●		●			●														●	●	▲	●	●						
			120412N-LU	1.2	●	○	●	●	●	●	●		●			●														●	●	▲		●						
			120416N-LU	1.6																																				
	LUW 10° →B135 Wiper		CNMG 120404N-LUW	0.4	●	○	●		●	●			●			●														●	●	▲		●						
			120408N-LUW	0.8	●	○	●		●	●			●			●														●	●	▲		●						
			120412N-LUW	1.2	●	○	●		●	●			●			●														●	●	▲		●						
	SU 13°		CNMG 120402N-SU	0.2								●	●	●		●						○	●	●		●		●		●	●	▲	●	●						
			120404N-SU	0.4	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●						
			120408N-SU	0.8	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●						
			120412N-SU	1.2	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●						
	SU 13°		CNGG 120402N-SU	0.2																			●	●	●	●					●	●	▲	●	●						
			120404N-SU	0.4																			●	●	●	●					●	●	▲	●	●						
			120408N-SU	0.8																			●	●	●	●					●	●		●	●						

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

Indexable Insert

CN 80° Diamond Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

CN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.9	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L32 on | SUMIDIA (PCD) Inserts ☞ M10

Ceramic Inserts ☞ B132

Applicable External Holders ☞ C8 to C10 | Applicable Internal Holders ☞ E15, E23 to E25

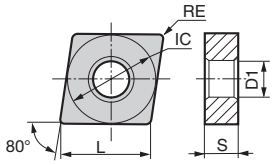
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**SE** 5°	P	CNMG 120404N-SE	0.4	●	○	●	●	●	●	●					●														●	●		●	●							
			120408N-SE	0.8	●	○	●	●	●	●	●					●														●	●		●	●							
			120412N-SE	1.2	●	○	●	●	●	●	●					●														●	●		●	●							
			120416N-SE	1.6																																					
	SEW 5° →B135 Wiper	P	CNMG 120404N-SEW	0.4	●	○	●		●	●																				●	●			●							
			120408N-SEW	0.8	●	○	●		●	●																				●	●			●							
			120412N-SEW	1.2	●	○	●		●	●																															
	EF 20°	M S	CNMG 120404N-EF	0.4	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●	
			120408N-EF	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●	
			120412N-EF	1.2	●	○	●	●				●	●	●									○	●	●		●															
	EF 20°	M S	CNGG 120402N-EF	0.2								—	—	—		●							●	●	●	●	●													●	●	
			120404N-EF	0.4								—	—	—		●							●	●	●	●	●													●	●	
			120408N-EF	0.8								—	—	—		●							●	●	●	●	●													●	●	
Light to Medium Cutting	**SX** 3°	P	CNMG 120404N-SX	0.4	●	○	●	●	●	●	●																			●	●	▲		●							
			120408N-SX	0.8	●	○	●	●	●	●	●																			●	●	▲		●							
			120412N-SX	1.2	●	○	●	●	●	●	●																														
	EX 16°	M S	CNMG 120404N-EX	0.4								●	●	●	▲	●							○	●	●	●	●		●													
			120408N-EX	0.8								●	●	●	▲	●							○	●	●	●	●		●													
			120412N-EX	1.2								●	●	●	▲	●							○	●	●	●	●		●													
			120416N-EX	1.6																																					
	UP 10°	M S	CNMG 120404N-UP	0.4						●	●	●	●	●		●							○	●	●	●	●		●										●			
			120408N-UP	0.8						●	●	●	●	●	▲	●							○	●	●	●	●		●										●			
			120412N-UP	1.2						●	●	●	●	●		●							○	●	●	●	●		●										●			
Medium Cutting	**GU** 7°	P M	CNMG 120404N-GU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●		●	●			●							
			120408N-GU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●		●	●			●							
			120412N-GU	1.2	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●													
			120416N-GU	1.6	●	○	●	●		●	●						●	●																								
	GE 3°	P	CNMG 120404N-GE	0.4	●	○	●	●	●	●	●																														
			120408N-GE	0.8	●	○	●	●	●	●	●																														
			120412N-GE	1.2	●	○	●	●	●	●	●																														
			120416N-GE	1.6	●	○	●	●	●	●	●																														
	GUW 0° →B135 Wiper	P	CNMG 120408N-GUW	0.8	●	○	●		●	●																				●	●			●							
			120412N-GUW	1.2	●	○	●		●	●																															
	UX 0°	P K	CNMG 120404N-UX	0.4	●	○	●	●	●	●	●																														
			120408N-UX	0.8	●	○	●	●	●	●	●																														
			120412N-UX	1.2	●	○	●	●	●	●	●																														
			120416N-UX	1.6	●	○	●	●	●	●	●																														

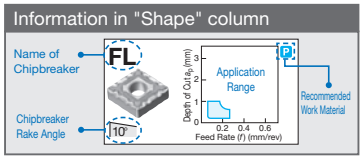
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

Indexable Insert

CN 80° Diamond Type / Neg. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.9	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Metal
S	Exotic Alloy
H	Hardened Steel

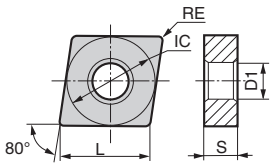
SUMIBORON (CBN) Inserts ☞L32 on
SUMIDIA (PCD) Inserts ☞M10
Ceramic Inserts ☞B132
Applicable External Holders ☞C8 to C10
Applicable Internal Holders ☞E15, E23 to E25

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	**UG**	P M	CNMG 120404N-UG	0.4			●	●		●	●																								●				
			120408N-UG	0.8			●	●		●	●																								●				
			120412N-UG	1.2			●	●		●	●																												
			120416N-UG	1.6			●	●		●	●																												
	EG	M	CNMG 120404N-EG	0.4	●	○	●	●				●	●	●								○	●	●														●	●
			120408N-EG	0.8	●	○	●	●				●	●	●		●						○	●	●	●	●												●	●
			120412N-EG	1.2	●	○	●	●				●	●	●		●						○	●	●	●	●												●	●
			CNMA 120404	0.4													●	●	●	▲	▲																		
			120408	0.8													●	●	●	▲	▲		○	●	●	●													
			120412	1.2													●	●	●	▲	▲																		
			120416	1.6													●	●	●	▲	▲																		
			CNGA 120402	0.2																		●																	
			120404	0.4																		●																	
			120408	0.8																		●																	
Medium to Roughing	**MU**	P M S	CNMG 120408N-MU	0.8	●	○	●	●	●	●	●		●			●							○	●	●	●	●		●											
			120412N-MU	1.2	●	○	●	●	●	●	●		●			●							○	●	●	●	●		●											
			120416N-MU	1.6	●	○	●	●	●	●	●												○	●	●		●		●											
	EM	M S	CNMG 120408N-EM	0.8	●	○	●	●				●	●	●									○	●	●															
			120412N-EM	1.2	●	○	●	●				●	●	●									○	●	●															
			120416N-EM	1.6	●	○	●	●				●	●	●									○	●	●															
	ME	P	CNMG 120408N-ME	0.8	●	○	●	●	●	●	●						●	●																					
			120412N-ME	1.2	●	○	●	●	●	●	●						●	●																					
			120416N-ME	1.6	●	○	●	●	●	●	●						●	●																					
	MX	P	CNMG 120408N-MX	0.8			●	●		●	●																												
			120412N-MX	1.2			●	●		●	●																												
			120416N-MX	1.6			●			●																													
	UZ	K	CNMG 120404N-UZ	0.4			●			●							●	●	●	▲	▲																		
			120408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●										●	●	
			120412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●											●	
			120416N-UZ	1.6			●			●							●	●	●	▲	▲																		
	GZ	K	CNMG 120404N-GZ	0.4						●							●	●	●	▲	▲																		
			120408N-GZ	0.8						●							●	●	●	▲	▲																		
			120412N-GZ	1.2						●							●	●	●	▲	▲																		
			120416N-GZ	1.6						●							●	●	●	▲	▲																		
Roughing	**MP**	P	CNMM 120408N-MP	0.8	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●													
			120412N-MP	1.2	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●													
			120416N-MP	1.6	●	○	●	●	●	●	●	●	●			●							○	●	●	●													

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

CN 80° Diamond Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✪: Interrupted Cutting 2nd Recommendation

CN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.9	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L32 on
SUMIDIA (PCD) Inserts ☞ M10
Ceramic Inserts ☞ B132
Applicable External Holders ☞ C8 to C10
Applicable Internal Holders ☞ E15, E23 to E25

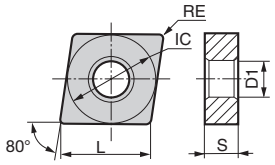
						Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide								
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cutting	**HG**		CNMM 120408N-HG	0.8	●	○	●	●	●	●	●					●																									
			120412N-HG	1.2	●	○	●	●	●	●	●					●																									
			120416N-HG	1.6			●			●																															
	HP		CNMM 120408N-HP	0.8			●	●		●	●					●																									
			120412N-HP	1.2			●	●		●	●					●																									
			120416N-HP	1.6			●	●		●	●					●																									
For Aluminum	**AX**		CNGG 120402R-AX	0.2																																				●
			120402L-AX	0.2																																				●
			120404R-AX	0.4																																				●
			120404L-AX	0.4																																				●
			120408R-AX	0.8																																				●
			120408L-AX	0.8																																				●
Light Cutting of Hardened Steel	**GH**		CNGG 120402N-GH	0.2																		●																	
			120404N-GH	0.4																		●																	
			120408N-GH	0.8																		●																	

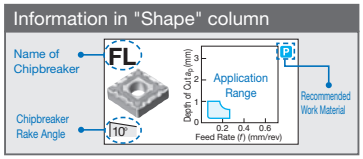
○ mark: Stock or planned stock (please confirm stock availability)

80° Diamond Type Negative Inserts

Indexable Insert

CN 80° Diamond Type / Neg. / With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
●: Interrupted Cutting 1st Recommendation ○: Interrupted Cutting 2nd Recommendation

CN■■1606●●

Dimensions (mm)	Cutting Edge Length L	16.1	Thickness S	6.35
	Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

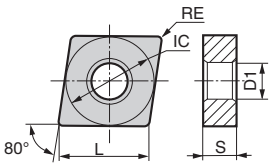
Applicable External Holders ☞ C8 to C10

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	EX		CNMG 160612N-EX	1.2																			○	●	●	●	●															
	UP		CNMG 160608N-UP	0.8																																						
			CNMG 160612N-UP	1.2																																						
Medium Cutting	GU		CNMG 160608N-GU	0.8	●	○	●	●	●	●	●		●	●			●	●																								
			CNMG 160612N-GU	1.2	●	○	●	●	●	●	●		●	●			●	●																								
			CNMG 160616N-GU	1.6	●	○	●	●	●	●	●		●	●			●	●																								
	GE		CNMG 160608N-GE	0.8	●	○	●	●	●	●	●																														
			CNMG 160612N-GE	1.2	●	○	●	●	●	●	●																														
			CNMG 160616N-GE	1.6	●	○	●	●	●	●	●																														
	GUW →B135 Wiper		CNMG 160612N-GUW	1.2	●	○	●	●	●	●	●																														
	UX		CNMG 160608N-UX	0.8	●	○	●	●	●	●	●																														
			CNMG 160612N-UX	1.2	●	○	●	●	●	●	●																														
			CNMG 160616N-UX	1.6	●	○	●	●	●	●	●																														
	UG		CNMG 160608N-UG	0.8				●			●																														
			CNMG 160612N-UG	1.2				●			●																														
			CNMG 160616N-UG	1.6				●	●		●	●																														
	EG		CNMG 160608N-EG	0.8	●	○	●	●				●	●	●									○	●	●	●	●															
			CNMG 160612N-EG	1.2	●	○	●	●				●	●	●		●							○	●	●	●	●															
			CNMG 160616N-EG	1.6	●	○	●	●				●	●	●									○	●	●	●	●															
			CNMA 160608	0.8													●	●	●	▲	▲																				
			CNMA 160612	1.2													●	●	●	▲	▲																				
			CNMA 160616	1.6													●	●	●	▲	▲																				
Medium to Roughing	MU		CNMG 160608N-MU	0.8	●	○	●	●	●	●	●												○	●	●	●	●															
			CNMG 160612N-MU	1.2	●	○	●	●	●	●	●		●			●							○	●	●	●	●															
			CNMG 160616N-MU	1.6	●	○	●	●	●	●	●		●			●							○	●	●	●	●															
	EM		CNMG 160608N-EM	0.8	●	○	●	●				●	●	●									○	●	●																	
			CNMG 160612N-EM	1.2	●	○	●	●				●	●	●									○	●	●																	
			CNMG 160616N-EM	1.6	●	○	●	●				●	●	●									○	●	●																	
	ME		CNMG 160608N-ME	0.8	●	○	●	●	●	●	●							●	●																						
			CNMG 160612N-ME	1.2	●	○	●	●	●	●	●							●	●																						
			CNMG 160616N-ME	1.6	●	○	●	●	●	●	●							●	●																						

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

CN 80° Diamond Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CN■■1606●●

Dimensions (mm)	Cutting Edge Length L	16.1	Thickness S	6.35
	Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Applicable External Holders ☞ C8 to C10

Recommended Application

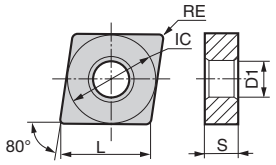
		Coated Carbide																							Coated Cermet		Cermet	Cemented Carbide								
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**MX**		CNMG 160608N-MX	0.8			●			●																														
			160612N-MX	1.2			●	●		●	●																														
			160616N-MX	1.6			●	●		●	●																														
	UZ		CNMG 160608N-UZ	0.8			●	●		●	●																														
			160612N-UZ	1.2			●	●		●	●						●	●	●	▲	▲																				
			160616N-UZ	1.6			●	●		●	●						●	●	●	▲	▲																				
	GZ		CNMG 160608N-GZ	0.8													●	●	●	▲	▲																				
			160612N-GZ	1.2													●	●	●	▲	▲																				
			160616N-GZ	1.6													●	●	●	▲	▲																				
Roughing	**MP**		CNMM 160608N-MP	0.8			●	●		●	●		●										○	●	●	●															
			160612N-MP	1.2	●	○	●	●	●	●	●		●										○	●	●	●															
			160616N-MP	1.6	●	○	●	●	●	●	●		●										○	●	●	●															
Heavy Cutting	**HG**		CNMM 160612N-HG	1.2	●	○	●	●	●	●	●																														
			160616N-HG	1.6	●	○	●	●	●	●	●																														
	HP		CNMM 160608N-HP	0.8			●	●		●	●																														
			160612N-HP	1.2			●	●		●	●																														
			160616N-HP	1.6			●	●		●	●																														

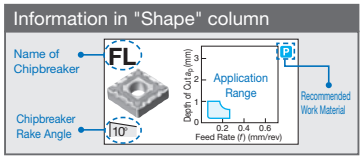
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

Indexable Insert

CN 80° Diamond Type / Neg. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CN■■1906●●

Dimensions (mm)	Cutting Edge Length L	19.3	Thickness S	6.35
	Inscribed Circle IC	19.05	Hole Dia. D1	7.94

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Applicable External Holders C8 to C10 — Applicable Internal Holders E24, E25

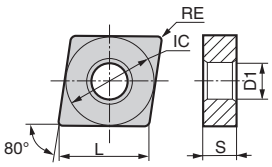
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**EX** 16°		CNMG 190612N-EX	1.2																		○	●	●	●	●														
	UP 10°		CNMG 190612N-UP	1.2						●	●																											●		
Medium Cutting	**GE** 3°		CNMG 190612N-GE	1.2	●	○	●	●	●	●	●																													
			190616N-GE	1.6	●	○	●	●	●	●	●																													
	UX 0°		CNMG 190608N-UX	0.8				●			●																													
			190612N-UX	1.2	●	○	●	●	●	●	●																													
			190616N-UX	1.6	●	○	●	●	●	●	●																													
	UG 4°		CNMG 190604N-UG	0.4																																			
			190608N-UG	0.8				●			●																													
			190612N-UG	1.2			●	●		●	●																													
			190616N-UG	1.6			●	●		●	●																													
			190624N-UG	2.4																																			
	EG 0°		CNMG 190612N-EG	1.2	●	○	●	●				●	●	●		●						○	●	●	●	●													●	●
			190616N-EG	1.6	●	○	●	●				●	●	●		●						○	●	●	●	●													●	●
			CNMA 190608	0.8																																			
			190612	1.2													●	●	●	▲	▲																		
			190616	1.6													●	●	●	▲	▲																		
Medium to Roughing	**MU** 4°		CNMG 190608N-MU	0.8				●			●																													
			190612N-MU	1.2	●	○	●	●	●	●	●		●			●						○	●	●	●	●														
			190616N-MU	1.6	●	○	●	●	●	●	●		●			●						○	●	●	●	●														
			190624N-MU	2.4	●	○	●	●	●	●	●												○	●	●	●	●														
	EM 0°		CNMG 190612N-EM	1.2	●	○	●	●				●	●	●									○	●	●															
			190616N-EM	1.6	●	○	●	●				●	●	●									○	●	●															
			190624N-EM	2.4	●	○	●	●				●	●	●									○	●	●															
	ME 4°		CNMG 190612N-ME	1.2	●	○	●	●	●	●	●						●	●																					
			190616N-ME	1.6	●	○	●	●	●	●	●						●	●																					
			190624N-ME	2.4	●	○	●	●	●	●	●						●	●																					
	MX -15°		CNMG 190612N-MX	1.2			●	●		●	●																													
			190616N-MX	1.6			●	●		●	●																													
	UZ 4°		CNMG 190608N-UZ	0.8				●	●		●																													
			190612N-UZ	1.2				●	●		●						●	●	●	▲	▲																		
			190616N-UZ	1.6				●	●		●						●	●	●	▲	▲																		

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

Indexable Insert

CN 80° Diamond Type Neg. With Hole



Grade Selection ☞ A2, A3
Chipbreaker Selection ☞ B10 on
Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation ○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✖ : Interrupted Cutting 2nd Recommendation

CN■■1906●●

Dimensions (mm)	Cutting Edge Length L	19.3	Thickness S	6.35
	Inscribed Circle IC	19.05	Hole Dia. D1	7.94

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Applicable External Holders ☞ C8 to C10
Applicable Internal Holders ☞ E24, E25

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**GZ**	K	**CNMG 190612N-GZ**	1.2													●	●	●	▲	▲																				
	0°		**190616N-GZ**	1.6													●	●	●	▲	▲																				
Roughing	**MP**	P M	**CNMM 190608N-MP**	0.8			●	●		●	●		●			●							○	●	●	●														
	0°		**190612N-MP**	1.2	●	○	●	●	●	●	●	●	●			●							○	●	●	●														
			190616N-MP	1.6	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●														
			190624N-MP	2.4	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●														
Heavy Cutting	**HG**	P	**CNMM 190612N-HG**	1.2	●	○	●	●	●	●	●					●																								
	0°		**190616N-HG**	1.6	●	○	●	●	●	●	●					●																								
			190624N-HG	2.4	●	○	●	●	●	●	●					●																								
	HP	P	**CNMM 190608N-HP**	0.8			●	●		●	●					●																								
	0°		**190612N-HP**	1.2			●	●		●	●					●																								
			190616N-HP	1.6			●	●		●	●					●																								
			190624N-HP	2.4			●	●		●	●					●																								
	HF	P	**CNMM 190616N-HF**	1.6			●	●		●	●																													
	-15°		**190624N-HF**	2.4			●	●		●	●																													

CN■■2507●●

Dimensions (mm)	Cutting Edge Length L	25.8	Thickness S	7.94
	Inscribed Circle IC	25.4	Hole Dia. D1	9.12

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

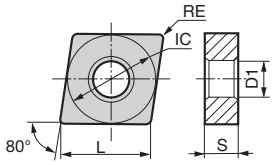
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Roughing	**MP**	P	**CNMM 250724N-MP**	2.4			●			●																														
	0°																																							

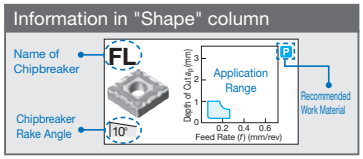
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Negative Inserts

Indexable Insert

CN 80° Diamond Type / Neg. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CN■■2509●●

Dimensions (mm)	Cutting Edge Length L	25.8	Thickness S	9.52
	Inscribed Circle IC	25.4	Hole Dia. D1	9.12

Applicable External Holders ☞ C8

Recommended Application		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide					
P	Steel	●	○	●	✖	○	○	✖	✖		○			○	○					✖	✖	✖	✖	✖	✖	✖	✖	●	●				
M	Stainless Steel				✖			✖	●	●	✖	✖	○	○						✖	✖	✖	✖	●	✖								
K	Cast Iron			✖			✖								●	●	✖	○	○		✖		✖	●				●					
N	Non-Ferrous Metal																																●
S	Exotic Alloy																●	●	✖	○	✖	✖	✖										
H	Hardened Steel															●																	
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1

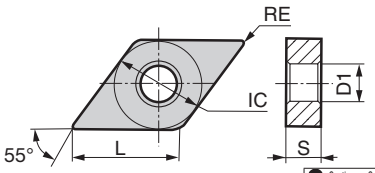
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**MU**		**CNMG 250924N-MU**	2.4	●	○	●	●	●	●	●						●	●				—	○	●	●	●	—			—	—	—	—	—	—						
	EM		**CNMG 250924N-EM**	2.4	●	○	●	●				●	●									—	○	●	●		—			—	—	—	—	—	—						
	ME		**CNMG 250924N-ME**	2.4	●	○	●	●	●	●	●						●	●				—					—			—	—	—	—	—	—						
Roughing	**MP**		**CNMM 250924N-MP**	2.4			●			●												—					—			—	—	—	—	—	—						
Heavy Cutting	**HF**		**CNMM 250924N-HF**	2.4			●	●		●	●											—					—			—	—	—	—	—	—						
			250932N-HF	3.2			●	●		●	●											—					—			—	—	—	—	—	—						

○ mark: Stock or planned stock (please confirm stock availability)

55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DN■■1104●●

Dimensions (mm)	Cutting Edge Length L	11.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L49

Applicable External Holders ☞ C14 Applicable Internal Holders ☞ E34, E35

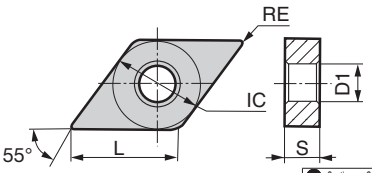
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°	P	DNMG 110404N-FB	0.4										●															●	●	▲		●							
			110408N-FB	0.8										●															●	●	▲		●							
	FE 20°	P	DNMG 110404N-FE	0.4	●	○	●	●	●		●		●	●															●	●	▲		●							
			110408N-FE	0.8	●	○	●	●	●		●		●	●															●	●	▲		●							
			110412N-FE	1.2	●	○	●	●	●		●		●	●															●	●	▲		●							
Finishing	**LU** 10°	P	DNMG 110404N-LU	0.4	●	○	●			●			●			●																	●							
			110408N-LU	0.8	●	○	●			●			●			●																	●							
	SU 13°	P M S	DNMG 110404N-SU	0.4	●	○	●	●	●	●	●	●	●	●															●											
			110408N-SU	0.8	●	○	●	●	●	●	●	●	●	●															●											
			110412N-SU	1.2	●	○	●	●	●	●	●	●	●	●															●											
	SE 5°	P	DNMG 110408N-SE	0.8	●	○	●	●	●	●	●																													
	SEW 5° →B135 Wiper	P	DNMX 110404N-SEW	0.4	●	○	●	●	●	●	●																													
			110408N-SEW	0.8	●	○	●	●	●	●	●																													
			110412N-SEW	1.2	●	○	●	●	●	●	●																													
	EF 20°	M S	DNMG 110404N-EF	0.4	●	○	●	●				●	●	●								○	●	●		●															
			110408N-EF	0.8	●	○	●	●				●	●	●								○	●	●		●															
			110412N-EF	1.2	●	○	●	●				●	●	●								○	●	●		●															
Medium Cutting	**GU** 7°	P M	DNMG 110404N-GU	0.4	●	○	●	●		●	●	●	●	●		●	●	●																	●							
			110408N-GU	0.8	●	○	●	●		●	●	●	●	●		●	●	●																	●							
			110412N-GU	1.2	●	○	●	●	●	●	●	●	●	●			●	●													●											
	GE 3°	P	DNMG 110408N-GE	0.8	●	○	●	●	●	●	●																													
			110412N-GE	1.2	●	○	●	●	●	●	●																													
	UX 0°	P K	DNMG 110408N-UX	0.8	●	○	●	●			●																													
	UG 4°	P M	DNMG 110404N-UG	0.4			●	●		●	●																													
			110408N-UG	0.8			●	●		●	●																													
	EG 0°	M	DNMG 110408N-EG	0.8	●	○	●	●				●	●	●								○	●	●		●															
			110412N-EG	1.2	●	○	●	●				●	●	●								○	●	●		●															

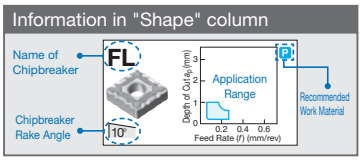
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type Neg. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DN■■1104●●

Dimensions (mm)	Cutting Edge Length L	11.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L49

Applicable External Holders ☞C14 Applicable Internal Holders ☞E34, E35

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	UM 0°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	DNGG 110404R-UM	0.4																													●	●			●		
			110404L-UM	0.4																													●	●			●		
			110408R-UM	0.8																													●	●					
			110408L-UM	0.8																													●	●			●		
			DNGA 110404	0.4																																			
			110408	0.8																																			
Medium to Roughing	GZ 0°	(ap) 6 4 2 K 0.2 0.4 0.6 (f)	DNMG 110408N-GZ	0.8													●	●	●	▲	▲	—					—			—			—	—					—
			110412N-GZ	1.2													●	●	●	▲	▲	—					—			—			—	—					—

DN■■1504●●

Dimensions (mm)	Cutting Edge Length L	15.5	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L49 on SUMIDIA (PCD) Inserts ☞M12

SUMIDIA BINDERLESS Inserts ☞M28 Ceramic Inserts ☞B132

Applicable External Holders ☞C12 to C14 Applicable Internal Holders ☞E15, E33 to E35

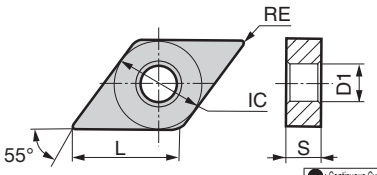
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB 27°	(ap) 2 1 0 P 0.2 0.4 (f)	DNMG 150404N-FB	0.4										●	—															●	●	▲	●	●						
			150408N-FB	0.8										●	—															●	●	▲	●	●						
	FA 20°	(ap) 2 1 0 P 0.2 0.4 (f)	DNMG 150404N-FA	0.4																										●	●	▲	●	●						
			150408N-FA	0.8																										●	●	▲	●	●						
	FL 10°	(ap) 2 1 0 P 0.2 0.4 (f)	DNMG 150404N-FL	0.4			●			●						●						—					—		—	●	●	▲	●	●						
			150408N-FL	0.8			●			●						●						—					—		—	●	●	▲	●	●						
			150412N-FL	1.2			●									●						—					—		—										
	FE 20°	(ap) 2 1 0 P 0.2 0.4 (f)	DNMG 150402N-FE	0.2	●	○	●	●	●		●		●	●								—					—		—	●	●	▲	●	●						
			150404N-FE	0.4	●	○	●	●	●		●		●	●								—					—		—	●	●	▲	●	●						
			150408N-FE	0.8	●	○	●	●	●		●		●	●								—					—		—	●	●	▲	●	●						
			150412N-FE	1.2	●	○	●	●	●		●		●	●								—					—		—	●	●	▲	●	●						
Finishing	LU 10°	(ap) 2 1 0 P 0.2 0.4 (f)	DNMG 150402N-LU	0.2	●	○	●		●	●			●			●						—					—		—	●	●	▲	●	●						
			150404N-LU	0.4	●	○	●	●	●	●	●		●			●						—					—		—	●	●	▲	●	●						
			150408N-LU	0.8	●	○	●	●	●	●	●		●			●						—					—		—	●	●	▲	●	●						
			150412N-LU	1.2	●	○	●	●	●	●	●		●			●						—					—		—	●	●	▲		●						

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type Neg. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DN■■1504●●

Dimensions (mm)	Cutting Edge Length L	15.5	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L49 on | SUMIDIA (PCD) Inserts M12 | SUMIDIA BINDERLESS Inserts M28 | Ceramic Inserts B132

Applicable External Holders C12 to C14 | Applicable Internal Holders E15, E33 to E35

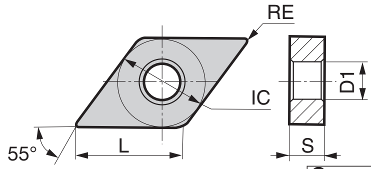
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SU 13°		DNMG 150402N-SU	0.2								●	●	●		●						○	●	●		●		●		●	●	▲	●	●							
			150404N-SU	0.4	●	○	●	●	●	●	●	●	●	●		●						○	●	●		●		●		●	●	▲	●	●							
			150408N-SU	0.8	●	○	●	●	●	●	●	●	●	●		●						○	●	●		●		●		●	●	▲	●	●							
			150412N-SU	1.2	●	○	●		●	●		●	●	●		●															●	▲	●	●							
	SU 13°		DNGG 150402N-SU	0.2																			●	●	●	●					●	▲	●	●							
			150404N-SU	0.4																			●	●	●	●					●	▲	●	●							
			150408N-SU	0.8																			●	●	●	●					●	▲	●	●							
	SE 13°		DNMG 150404N-SE	0.4	●	○	●	●	●	●	●																				●	●		●	●						
			150408N-SE	0.8	●	○	●	●	●	●	●																				●	●		●	●						
			150412N-SE	1.2	●	○	●	●	●	●	●																				●	●		●	●						
			150416N-SE	1.6																																					
	SEW 5° →B135 Wiper		DNMX 150404N-SEW	0.4	●	○	●		●	●																					●	●			●						
			150408N-SEW	0.8	●	○	●		●	●																					●	●			●						
			150412N-SEW	1.2	●	○	●		●	●																															
	EF 20°		DNMG 150404N-EF	0.4	●	○	●	●				●	●	●		●						○	●	●	●	●														●	●	
			150408N-EF	0.8	●	○	●	●				●	●	●		●						○	●	●	●	●														●	●	
			150412N-EF	1.2	●	○	●	●				●	●	●		●						○	●	●	●	●														●	●	
	EF 20°		DNGG 150404N-EF	0.4												●							●	●	●	●														●	●	
			150408N-EF	0.8												●							●	●	●	●														●	●	
	FY *1 15°		DNGG 150402R-FY	0.2																							●														
			150402L-FY	0.2																							●														
			150404R-FY	0.4																							●														
			150404L-FY	0.4																							●														
			150408R-FY	0.8																							●														
			150408L-FY	0.8																							●														
	FX *1 14°		DNGG 150402R-FX	0.2																							●														
			150402L-FX	0.2																							●														
			150404R-FX	0.4																							●														
			150404L-FX	0.4																							●														
			150408R-FX	0.8																							●														
			150408L-FX	0.8																							●														
Light to Medium Cutting	SX 3°		DNMG 150404N-SX	0.4	●	○	●	●	●	●	●																				●	●	▲		●						
			150408N-SX	0.8	●	○	●	●	●	●	●																				●	●	▲		●						
			150412N-SX	1.2	●	○	●	●	●	●	●																														
	EX 16°		DNMG 150404N-EX	0.4								●	●	●	▲	●						○	●	●	●	●			●													
			150408N-EX	0.8								●	●	●	▲	●						○	●	●	●	●			●													
			150412N-EX	1.2								●	●	●	▲	●						○	●	●	●	●			●													
	UP 10°		DNMG 150404N-UP	0.4						●	●	●	●	●		●						○	●	●	●	●			●										●			
			150408N-UP	0.8						●	●	●	●	●		●						○	●	●	●	●			●										●			
			150412N-UP	1.2						●	●	●	●	●		●						○	●	●	●	●			●										●			
			150416N-UP	1.6																																					
Medium Cutting	GU 7°		DNMG 150404N-GU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●	●	●				○	●	●		●		●		●	●			●							
			150408N-GU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●	●	●				○	●	●		●		●		●	●			●							
			150412N-GU	1.2	●	○	●	●	●	●	●	●	●	●	▲	●	●	●				○	●	●		●		●		●	●			●							
			150416N-GU	1.6			●			●							●	●																								
	GE 3°		DNMG 150404N-GE	0.4	●	○	●	●	●	●	●																														
			150408N-GE	0.8	●	○	●	●	●	●	●																														
			150412N-GE	1.2	●	○	●	●	●	●	●																														
			150416N-GE	1.6			●																																		

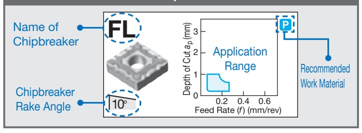
*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Negative Inserts

DN — 55° Diamond Type Neg. With Hole





● : Continuous Cutting 1st Recommendation / ○ : Continuous Cutting 2nd Recommendation
◖ : General Cutting 1st Recommendation / ◡ : General Cutting 2nd Recommendation
✚ : Interrupted Cutting 1st Recommendation / ✜ : Interrupted Cutting 2nd Recommendation

DN■■1504●●

Dimensions (mm)				
	Cutting Edge Length L	15.5	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

SUMIBORON (CBN) Inserts ☞ L49 on
SUMIDIA (PCD) Inserts ☞ M12
SUMIDIA BINDERLESS Inserts ☞ M28
Ceramic Inserts ☞ B132
Applicable External Holders ☞ C12 to C14
Applicable Internal Holders ☞ E15, E33 to E35

Recommended Application (Coated Carbide: AC8015P–ACZ150; Coated Cermet: T1500Z–T3000Z; Cermet: T1000A, T1500A; Cemented Carbide: ST10P–H1)

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◡	◖	✚	○	◡	✜		◡			◡									✜		✜	◖			◖	✚	✜	●	◖							
M Stainless Steel				✜			✜	●	◖	✚	○	◡									✜		✜	◖	✜													
K Cast Iron			✜			✜							●	◖	✚	○	◡			✜		✜		◖						●								
N Non-Ferrous Metal																																						◖
S Exotic Alloy																			●	◖	✚	◡	✜	✜														
H Hardened Steel																		●																				

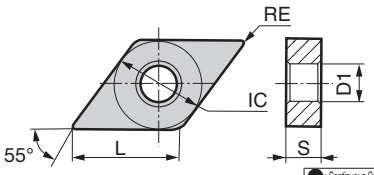
Cutting	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	UX 0°	P K	DNMG 150404N-UX	0.4	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			150408N-UX	0.8	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			150410N-UX	1.0																		—						—		—	—	—	—	—	—							—
			150412N-UX	1.2	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
	UG 4°	P M	DNMG 150404N-UG	0.4				●			●											—						—		—												
			150408N-UG	0.8			●	●		●	●											—						—		—												
			150412N-UG	1.2			●	●		●	●											—						—		—	—	—	—	—	—							
			150416N-UG	1.6																		—						—		—	—	—	—	—	—							—
	EG 0°	M	DNMG 150404N-EG	0.4	●	○	●	●				●	●	●		●						—	○	●	●	●	●	—		—	—	—	—	—	—					●	●	—
			150408N-EG	0.8	●	○	●	●				●	●	●		●						—	○	●	●	●	●	—		—	—	—	—	—	—					●	●	—
			150412N-EG	1.2	●	○	●	●				●	●	●		●						—	○	●	●	●	●	—		—	—	—	—	—	—					●	●	—
	UM 0°	P M K	DNMG 150404R-UM	0.4																		—						—		—	●				●							
			150404L-UM	0.4																		—						—		—	●				●							
			150408R-UM	0.8																		—						—		—	●				●							
			150408L-UM	0.8																		—						—		—	●				●							
	UM 0°	P	DNGG 150404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●			●			
			150404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●			●			
			150408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●			●			
			150408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●				●			
			150412R-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			150412L-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			DNMA 150404	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			150408	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			150412	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			DNGA 150402	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●																				
			150404	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●		●	●	●								●					●			
			150408	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●												●					●			
			150412	1.2	—	—	—	—	—	—	—	—	—	—	—	—																										
Medium to Roughing	MU 4°	P M S	DNMG 150408N-MU	0.8	●	○	●	●	●	●	●		●		▲	●						—	○	●	●	●	●	—	●	—	—	—	—	—	—							—
			150412N-MU	1.2	●	○	●	●	●	●	●		●			●						—	○	●	●	●	●	—	●	—	—	—	—	—	—							—
			150416N-MU	1.6			●	●		●	●											—	○	●	●		●	—	●	—	—	—	—	—	—							—
	EM 0°	M S	DNMG 150408N-EM	0.8	●	○	●	●				●	●	●								—	○	●	●			—		—	—	—	—	—	—							—
			150412N-EM	1.2	●	○	●	●				●	●	●								—	○	●	●			—		—	—	—	—	—	—							—
			150416N-EM	1.6			●	●				●	●	●								—	○	●	●			—		—	—	—	—	—	—							—
	ME 4°	P	DNMG 150408N-ME	0.8	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			150412N-ME	1.2	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			150416N-ME	1.6			●										●	●				—						—		—	—	—	—	—	—							—
	MX -15°	P	DNMG 150408N-MX	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—
			150412N-MX	1.2			●	●		●	●											—						—		—	—	—	—	—	—							—
			150416N-MX	1.6																		—						—		—	—	—	—	—	—							—

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DN■■1504●●

Dimensions (mm)	Cutting Edge Length L	15.5	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L49 on
SUMIDIA (PCD) Inserts ☞ M12
SUMIDIA BINDERLESS Inserts ☞ M28
Ceramic Inserts ☞ B132
Applicable External Holders ☞ C12 to C14
Applicable Internal Holders ☞ E15, E33 to E35

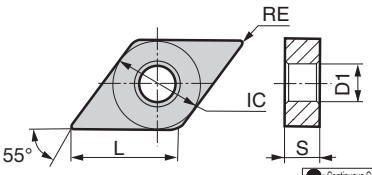
					Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**UZ**	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	DNMG 150404N-UZ	0.4			●			●							●	●	●	▲	▲		○	●	●	●	●										●	●	●			
	4°		150408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●										●	●	●			
			150412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●										●	●	●			
	GZ	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	DNMG 150404N-GZ	0.4						●							●	●	●	▲	▲																					
	0°		150408N-GZ	0.8						●							●	●	●	▲	▲																					
			150412N-GZ	1.2						●							●	●	●	▲	▲																					
	HM	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M K	DNMG 150404R-HM	0.4	●	○	●	●	●	●	●	●	●	●	●																										
	15°		150404L-HM	0.4			●			●		●	●	●	●																										
			150408R-HM	0.8	●	○	●	●	●	●	●	●	●	●	●																										
			150408L-HM	0.8			●			●		●	●	●	●																										
Roughing	**MP**	(ap) 6 4 2 0 0.4 0.8 (f) P	DNMM 150404N-MP	0.4			●	●		●	●																														
	0°		150408N-MP	0.8	●	○	●	●	●	●	●																														
			150412N-MP	1.2	●	○	●	●	●	●	●																														
			150416N-MP	1.6	●	○	●		●	●																														
Heavy Cutting	**HP**	(ap) 6 4 2 0 0.4 0.8 (f) P	DNMM 150404N-HP	0.4			●	●		●	●																														
	0°		150408N-HP	0.8			●	●		●	●																														
			150412N-HP	1.2			●	●		●	●																														
			150416N-HP	1.6			●			●																														
For Aluminum	**AX**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	DNGG 150402R-AX	0.2																																				●
	30°		150402L-AX	0.2																																				●
			150404R-AX	0.4																																				●
			150404L-AX	0.4																																				●
			150408R-AX	0.8																																				●
			150408L-AX	0.8																																				●
Light Cutting of Hardened Steel	**GH**	(ap) 4 3 2 1 0 0.1 0.2 (f) H	DNGG 150402N-GH	0.2																		●																		
	3°		150404N-GH	0.4																		●																		
			150408N-GH	0.8																		●																		

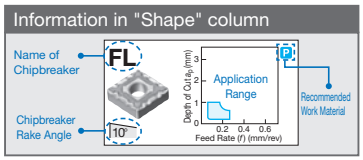
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type Neg. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DN■■1506●●

Dimensions (mm)	Cutting Edge Length L	15.5	Thickness S	6.35
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L54

Applicable External Holders ☞C12, C14 Applicable Internal Holders ☞E34

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB**		DNMG 150604N-FB	0.4										●																●	●	▲	●	●							
	27°		150608N-FB	0.8										●																●	●	▲	●	●							
	FA		DNMG 150604N-FA	0.4																										●	●		●	●							
	20°		150608N-FA	0.8																										●			●	●							
	FE		DNMG 150602N-FE	0.2	●	○	●	●	●		●		●	●																●	●	▲	●	●							
	20°		150604N-FE	0.4	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			150608N-FE	0.8	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			150612N-FE	1.2	●	○	●	●	●		●		●	●																●	●	▲	●	●							
Finishing	**SU**		DNMG 150604N-SU	0.4	●	○	●			●																				●	●		●	●							
	13°		150608N-SU	0.8	●	○	●	●		●	●																			●	●		●	●							
			150612N-SU	1.2	●	○	●	●		●	●																														
	SE		DNMG 150604N-SE	0.4																													●								
	5°		150608N-SE	0.8																													●								
			150612N-SE	1.2																																					
			150616N-SE	1.6																																					
	SEW		DNMX 150604N-SEW	0.4																																					
	5° →B135 Wiper		150608N-SEW	0.8																																					
			150612N-SEW	1.2																																					
	EF		DNMG 150604N-EF	0.4	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
	20°		150608N-EF	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
			150612N-EF	1.2	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
Light to Medium Cutting	**SX**		DNMG 150604N-SX	0.4																										●	●			●							
	3°		150608N-SX	0.8																										●	●			●							
	EX		DNMG 150604N-EX	0.4								●	●	●	▲	●																									
	16°		150608N-EX	0.8								●	●	●	▲	●																									
			150612N-EX	1.2								●	●	●	▲	●																									
	UP		DNMG 150604N-UP	0.4																																					
	10°		150608N-UP	0.8																																					
			150612N-UP	1.2																																					
			150616N-UP	1.6																																					

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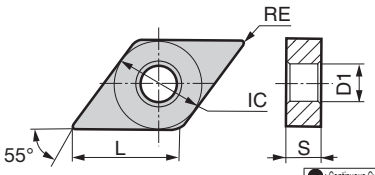
55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DN■■1506●●

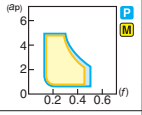
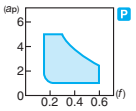
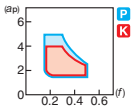
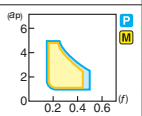
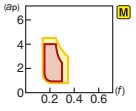
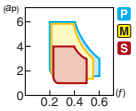
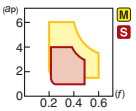
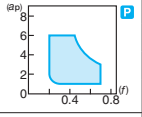
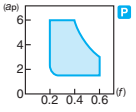
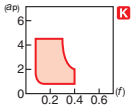
Dimensions (mm)	Cutting Edge Length L	15.5	Thickness S	6.35
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application

		Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide						
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	○	●	●		●	●						●	●																								
M	Stainless Steel	●	○	●	●	●	●	●	●	●	●	▲	●	●	●																							
K	Cast Iron	●	○	●	●	●	●	●	●	●	●	▲	●	●	●																							
N	Non-Ferrous Metal																																					
S	Exotic Alloy																																					
H	Hardened Steel																																					

SUMIBORON (CBN) Inserts ☞ L54

Applicable External Holders ☞ C12, C14 Applicable Internal Holders ☞ E34

	Shape	Application Range	Cat. No.	Corner Radius RE
Medium Cutting	**GU** 7°		DNMG 150604N-GU	0.4
			150608N-GU	0.8
			150612N-GU	1.2
			150616N-GU	1.6
	GE 3°		DNMG 150604N-GE	0.4
			150608N-GE	0.8
			150612N-GE	1.2
			150616N-GE	1.6
	UX 0°		DNMG 150604N-UX	0.4
			150608N-UX	0.8
			150610N-UX	1.0
			150612N-UX	1.2
			150616N-UX	1.6
	UG 4°		DNMG 150604N-UG	0.4
			150608N-UG	0.8
			150612N-UG	1.2
			150616N-UG	1.6
	EG 0°		DNMG 150604N-EG	0.4
			150608N-EG	0.8
			150612N-EG	1.2
			DNMA 150608	0.8
			150612	1.2
Medium to Roughing	**MU** 4°		DNMG 150608N-MU	0.8
			150612N-MU	1.2
			150616N-MU	1.6
	EM 0°		DNMG 150608N-EM	0.8
			150612N-EM	1.2
	ME 4°		DNMG 150608N-ME	0.8
			150612N-ME	1.2
			150616N-ME	1.6
	MX -15°		DNMG 150608N-MX	0.8
			150612N-MX	1.2
			150616N-MX	1.6
	UZ 4°		DNMG 150608N-UZ	0.8
			150612N-UZ	1.2

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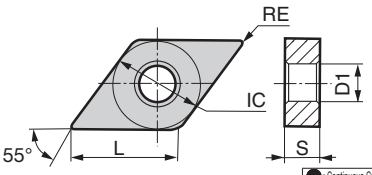
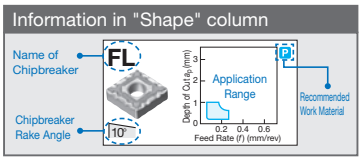
55° Diamond Type Negative Inserts

Indexable Insert

DN 55° Diamond Type Neg. With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

DN■■1506●●

Dimensions (mm)	Cutting Edge Length L	15.5	Thickness S	6.35
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L54

Applicable External Holders ☞C12, C14 Applicable Internal Holders ☞E34

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**GZ** 0°	K	**DNMG 150608N-GZ**	0.8						●							●	●	●	▲	▲																				
			150612N-GZ	1.2						●							●	●	●	▲	▲																				
Roughing	**MP** 0°	P	**DNMM 150604N-MP**	0.4			●			●																														
			150608N-MP	0.8	●	○	●	●	●	●	●																														
			150612N-MP	1.2	●	○	●	●	●	●	●																														
			150616N-MP	1.6	●	○	●		●	●																														
Heavy Cutting	**HP** 0°	P	**DNMM 150604N-HP**	0.4			●			●																														
			150608N-HP	0.8			●	●		●	●																														
			150612N-HP	1.2			●	●		●	●																														
			150616N-HP	1.6			●			●																														

DN■■1906●●

Dimensions (mm)	Cutting Edge Length L	19.4	Thickness S	6.35
	Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	**UG** 4°	P M	**DNMG 190608N-UG**	0.8																																				
			190612N-UG	1.2																																				
			190616N-UG	1.6																																				
Medium to Roughing	**UZ** 4°	P M	**DNMG 190608N-UZ**	0.8																																				
			190612N-UZ	1.2																																				
			190616N-UZ	1.6																																				

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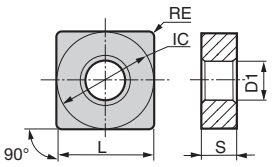
Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

SN■■S702●●

Dimensions (mm)	Cutting Edge Length L	7.14	Thickness S	2.38
	Inscribed Circle IC	7.14	Hole Dia. D1	2.97

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX		SNGG S70204R-GX	0.4																																							
			S70204L-GX	0.4																																	●	●					
			S70208R-GX	0.8																																	●	●		●			●
			S70208L-GX	0.8																																							
Chamfering	C	* Corner radius cannot be selected as the insert is for chamfering.	SNGG S70200-C	(0.8)																																	●	●		●			

*1: Photo shows left-handed.

SN■■07T2●●

Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	2.78
	Inscribed Circle IC	7.94	Hole Dia. D1	3.15

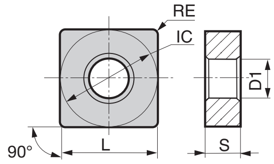
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

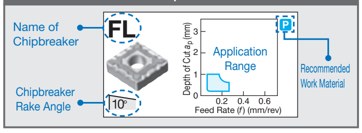
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX		SNGG 07T204R-GX	0.4																																	●					
			07T204L-GX	0.4																																	●	●					
			07T208R-GX	0.8																																							
			07T208L-GX	0.8																																	●	●		●			
Chamfering	C	* Corner radius cannot be selected as the insert is for chamfering.	SNGG 07T200-C	(0.8)																																	●	●		●			

*1: Photo shows left-handed.

Square Type Negative Inserts

SN Square Type Neg. With Hole





SN■■0903●●

Dimensions (mm)				
	Cutting Edge Length L	9.525	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Applicable External Holders ☞ C20 to C24

● : Continuous Cutting 1st Recommendation　○ : Continuous Cutting 2nd Recommendation
◓ : General Cutting 1st Recommendation　◠ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation　✣ : Interrupted Cutting 2nd Recommendation

Recommended Application

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◠	◓	✖	○	◠	✣		◠			◠									✣		✣	◓			◓	✖	✣	●	◓							
M Stainless Steel				✣			✣	●	◓	✖	○	◠									✣		✣	◓	✣													
K Cast Iron			✣			✣							●	◓	✖	○	◠			✣		✣		◓						●								
N Non-Ferrous Metal																																						◓
S Exotic Alloy																			●	◓	✖	◠	✣	✣														
H Hardened Steel																		●																				

Coated Carbide: AC8015P to ACZ150; Coated Cermet: T1500Z, T2500Z, T3000Z; Cermet: T1000A, T1500A; Cemented Carbide: ST10P to H1

Application	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting	ST 0°	P	SNGG 090304R-ST	0.4
			090304L-ST	0.4
			090308R-ST	0.8
			090308L-ST	0.8
	GX 15° *1	P M N	SNGG 090304R-GX	0.4
			090304L-GX	0.4
			090308R-GX	0.8
			090308L-GX	0.8
Medium Cutting	GU 7°	P M	SNMG 090304N-GU	0.4
			090308N-GU	0.8
	UX 0°	P K	SNMG 090308N-UX	0.8
	UG 4°	P M	SNMG 090308N-UG	0.8
			SNMA 090304	0.4
			090308	0.8
			SNGA 090304	0.4
			090308	0.8
Medium to Roughing	UZ 4°	K	SNMG 090312N-UZ	1.2
Chamfering	C 0°	* Corner radius cannot be selected as the insert is for chamfering.	SNGG 090300-C	(0.8)
	SJ 0°	P	SNMG 090304N-SJ	0.4

Coated Carbide (P / M grades)

Cat. No.	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M
SNGG 090304R-ST	—	—	—	—	—	—	—	—	—	—	—	—
090304L-ST	—	—	—	—	—	—	—	—	—	—	—	—
090308R-ST	—	—	—	—	—	—	—	—	—	—	—	—
090308L-ST	—	—	—	—	—	—	—	—	—	—	—	—
SNGG 090304R-GX	—	—	—	—	—	—	—	—	—	—	—	—
090304L-GX	—	—	—	—	—	—	—	—	—	—	—	—
090308R-GX	—	—	—	—	—	—	—	—	—	—	—	—
090308L-GX	—	—	—	—	—	—	—	—	—	—	—	—
SNMG 090304N-GU			●			●						
090308N-GU	●	○	●	●		●	●					
SNMG 090308N-UX				●			●					
SNMG 090308N-UG			●	●		●	●					
SNMA 090304												
090308												
SNGA 090304	—	—	—	—	—	—	—	—	—	—	—	—
090308	—	—	—	—	—	—	—	—	—	—	—	—
SNMG 090312N-UZ												
SNGG 090300-C	—	—	—	—	—	—	—	—	—	—	—	—
SNMG 090304N-SJ	—	—	—	—	—	—	—	—	—	—	—	—

Coated Carbide (K / U / S / Z grades)

Cat. No.	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150
SNGG 090304R-ST	—	—	—	—	—									
090304L-ST	—	—	—	—	—									
090308R-ST	—	—	—	—	—									
090308L-ST	—	—	—	—	—									
SNGG 090304R-GX	—	—	—	—	—									
090304L-GX	—	—	—	—	—									
090308R-GX	—	—	—	—	—									
090308L-GX	—	—	—	—	—									
SNMG 090304N-GU	●	●				—						—		—
090308N-GU	●	●				—						—		—
SNMG 090308N-UX						—						—		—
SNMG 090308N-UG						—						—		—
SNMA 090304						—						—		—
090308						—						—		—
SNGA 090304														
090308														
SNMG 090312N-UZ						—						—		—
SNGG 090300-C	—	—	—	—	—	—								
SNMG 090304N-SJ	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Coated Cermet / Cermet / Cemented Carbide

Cat. No.	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
SNGG 090304R-ST				●	●	●	●		●			
090304L-ST				●	●		●		●			
090308R-ST				●	●		●		●			
090308L-ST				●	●		●		●			
SNGG 090304R-GX												
090304L-GX												
090308R-GX							●		●			
090308L-GX							●		●			●
SNMG 090304N-GU	—	—	—	—	—							—
090308N-GU	●				●							
SNMG 090308N-UX	—	—	—	—	—							—
SNMG 090308N-UG												
SNMA 090304												
090308												
SNGA 090304									●			●
090308									●			
SNMG 090312N-UZ	—	—	—	—	—							—
SNGG 090300-C						●	●		●			
SNMG 090304N-SJ					●	—	—	—	—	—	—	—

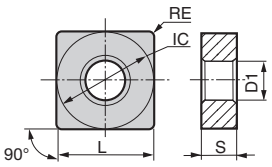
*1: Photo shows left-handed.

○ mark: Stock or planned stock (please confirm stock availability)

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

SN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L63 on

SUMIDIA BINDERLESS Inserts ☞ M28 Ceramic Inserts ☞ B132

Applicable External Holders ☞ C19 to C24 Applicable Internal Holders ☞ E51 to E53

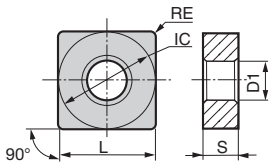
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120404N-FB	0.4										●																●	●	▲	●	●							
			120408N-FB	0.8										●																●	●	▲	●	●							
	FL 10°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120408N-FL	0.8			●			●					●															●	●	▲		●							
	FE 20°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120404N-FE	0.4	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			SNMG 120408N-FE	0.8	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			SNMG 120412N-FE	1.2	●	○	●	●	●		●		●	●																●	●	▲	●	●							
Finishing	**LU** 10°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120408N-LU	0.8	●	○	●		●	●			●			●														●	●	▲		●							
			SNMG 120412N-LU	1.2	●	○	●		●	●			●			●														●	●	▲		●							
	SU 13°	(ap) 2 1 0 0.2 0.4 (f) P M S	SNMG 120404N-SU	0.4																																					
			SNMG 120408N-SU	0.8	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●	●		●		●	●	▲	●	●							
	SE 5°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 120408N-SE	0.8	●	○	●	●	●	●	●																														
			SNMG 120412N-SE	1.2	●	○	●	●	●	●	●																														
	EF 20°	(ap) 2 1 0 0.2 0.4 (f) M S	SNMG 120404N-EF	0.4	●	○	●	●				●	●	●									○	●	●																	
			SNMG 120408N-EF	0.8	●	○	●	●				●	●	●									○	●	●																	
Light Cutting	**GX** 15° Photo Left-handed	(ap) 2 1 0 0.2 0.4 (f) P M N	SNGG 120404R-GX	0.4																																					
			120404L-GX	0.4																																●		●			
			120408R-GX	0.8																																		●			
			120408L-GX	0.8																																●		●			●
			120412R-GX	1.2																																					
			120412L-GX	1.2																																					
Light to Medium Cutting	**SX** 3°	(ap) 2 0 0.2 0.4 (f) P	SNMG 120404N-SX	0.4																										●	●	▲		●							
			SNMG 120408N-SX	0.8	●	○	●	●	●	●	●																			●	●	▲		●							
			SNMG 120412N-SX	1.2	●	○	●	●	●	●	●																														
	EX 16°	(ap) 3 2 0 0.2 0.4 (f) M S	SNMG 120404N-EX	0.4								●	●	●	▲	●							○	●	●	●	●		●													
			SNMG 120408N-EX	0.8								●	●	●	▲	●							○	●	●	●	●		●													
			SNMG 120412N-EX	1.2								●	●	●	▲	●							○	●	●	●	●		●													

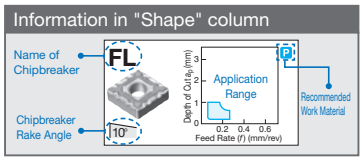
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L63 on
SUMIDIA BINDERLESS Inserts ☞M28 Ceramic Inserts ☞B132
Applicable External Holders ☞C19 to C24 Applicable Internal Holders ☞E51 to E53

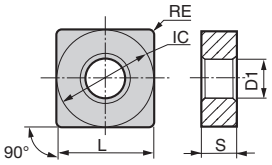
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**UP** 10°	ap: 4 3 2 0 / 0.2 0.4 0.6 / f; M S	SNMG 120404N-UP	0.4					●	●	●	●	●	●		●							○	●	●	●	●		●										●			
			120408N-UP	0.8					●	●	●	●	●	●		●							○	●	●	●	●		●										●			
			120412N-UP	1.2					●	●	●	●	●	●		●							○	●	●	●	●		●										●			
	GU 7°	ap: 6 4 2 0 / 0.2 0.4 0.6 / f; P M	SNMG 120404N-GU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●			●	●			●						
			120408N-GU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●			●	●			●						
			120412N-GU	1.2	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●													
			120416N-GU	1.6	●	○	●	●		●	●					●	●	●																								
	GE 3°	ap: 6 4 2 0 / 0.2 0.4 0.6 / f; P	SNMG 120408N-GE	0.8	●	○	●	●	●	●	●																														
			120412N-GE	1.2	●	○	●	●	●	●	●																														
			120416N-GE	1.6	●	○	●	●	●	●	●																														
	UX 0°	ap: 6 4 2 0 / 0.2 0.4 0.6 / f; P K	SNMG 120404N-UX	0.4				●			●																														
			120408N-UX	0.8	●	○	●	●	●	●	●																														
			120412N-UX	1.2	●	○	●	●	●	●	●																														
			120416N-UX	1.6	●	○	●	●	●	●	●																														
	UG 4°	ap: 6 4 2 0 / 0.2 0.4 0.6 / f; P M	SNMG 120408N-UG	0.8			●	●		●	●																									●		●			
			120412N-UG	1.2			●	●		●	●																														
			120416N-UG	1.6				●			●																														
	EG 0°	ap: 6 4 2 0 / 0.2 0.4 0.6 / f; M	SNMG 120404N-EG	0.4	●	○	●	●				●	●	●									○	●	●															●	●	
			120408N-EG	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●	
			120412N-EG	1.2	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●	
Medium Cutting	**UM** 0°	ap: 4 3 2 1 0 / 0.2 0.4 0.6 / f; P M K	SNMG 120404R-UM	0.4																														●							
			120404L-UM	0.4																														●							
			120408R-UM	0.8																														●							
			120408L-UM	0.8																														●							
			120412R-UM	1.2																														●							
			120412L-UM	1.2																														●							
			120416R-UM	1.6																																					
			120416L-UM	1.6																																					
	UM 0°	ap: 4 3 2 1 0 / 0.2 0.4 0.6 / f; P	SNGG 120404R-UM	0.4																														●	●		●			●		
			120404L-UM	0.4																														●	●	●					
			120408R-UM	0.8																				●	●	●								●	●	●	●	●	●	●	
			120408L-UM	0.8																				●	●	●								●	●	●	●	●	●	●	
			120412R-UM	1.2																														●	●						
			120412L-UM	1.2																																					
			120416R-UM	1.6																																					
			120416L-UM	1.6																																					
			SNMA 120404	0.4													●	●	●	▲	▲																		●		
			120408	0.8													●	●	●	▲	▲																		●		●
			120412	1.2													●	●	●	▲	▲																				
			120416	1.6													●	●	●	▲	▲																				
			120420	2.0													●	●	●	▲	▲																				
			SNGA 120404	0.4																		●																	●		
			120408	0.8																		●																	●		●
			120412	1.2																		●																	●		

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

SN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L63 on

SUMIDIA BINDERLESS Inserts M28 Ceramic Inserts B132

Applicable External Holders C19 to C24 Applicable Internal Holders E51 to E53

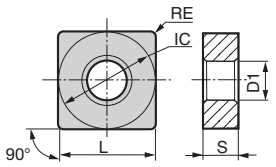
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**MU**	P M S	SNMG 120408N-MU	0.8	●	○	●	●	●	●	●		●			●							○	●	●	●	●		●													
			120412N-MU	1.2	●	○	●	●	●	●	●		●			●							○	●	●	●	●		●													
			120416N-MU	1.6	●	○	●	●		●	●					●																									
	EM	M S	SNMG 120408N-EM	0.8	●	○	●	●				●	●	●									○	●	●																
			120412N-EM	1.2	●	○	●	●				●	●	●									○	●	●																
	ME	P	SNMG 120408N-ME	0.8	●	○	●	●	●	●	●						●	●																						
			120412N-ME	1.2	●	○	●	●	●	●	●						●	●																						
			120416N-ME	1.6	●	○	●	●	●	●	●						●	●																						
	MX	P	SNMG 120408N-MX	0.8			●	●		●	●																													
			120412N-MX	1.2			●	●		●	●																													
			120416N-MX	1.6			●			●																														
	UZ	K	SNMG 120408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●									●	●	●	●			
			120412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●										●	●			
			120416N-UZ	1.6			●	●		●	●						●	●	●	▲	▲																	●			
	GZ	K	SNMG 120408N-GZ	0.8						●							●	●	●	▲	▲																			
			120412N-GZ	1.2						●							●	●	●	▲	▲																			
			120416N-GZ	1.6						●							●	●	●	▲	▲																			
	HM	P M K	SNMG 120408R-HM	0.8	●	○	●	●	●	●	●	●	●	●		●																							
			120408L-HM	0.8	●	○	●	●	●	●	●	●	●	●		●																							
	MM	P	SNGG 120408R-MM	0.8																																			
			120408L-MM	0.8																																			
Roughing	**MP**	P	SNMM 120408N-MP	0.8	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●														
			120412N-MP	1.2	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●														
			120416N-MP	1.6	●	○	●	●	●	●	●		●			●							○	●	●	●														
			120420N-MP	2.0			●			●																														
Heavy Cutting	**HG**	P	SNMM 120408N-HG	0.8	●	○	●	●	●	●	●					●																							
			120412N-HG	1.2	●	○	●	●	●	●	●					●																							
			120416N-HG	1.6	●	○	●	●	●	●	●					●																							
	HP	P	SNMM 120408N-HP	0.8			●	●		●	●					●																							
			120412N-HP	1.2			●	●		●	●					●																							
			120416N-HP	1.6			●	●		●	●					●																							
Chamfering	**C**	* Corner radius cannot be selected as the insert is for chamfering.	SNGG 120400-C	(0.8)																															●		●			●

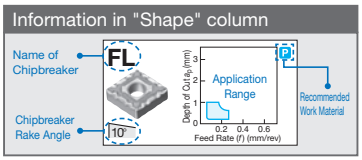
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Negative Inserts

Indexable Insert

SN Square Type / Neg. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

SN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application

		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide								
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	⛭	◔													⛭	⛭	●	⛭		●	✖	⛭	●	●							
M	Stainless Steel				⛭			⛭	●	●	✖	○	◔									⛭	⛭	⛭	●	⛭											
K	Cast Iron			⛭			⛭							●	●	✖	○	◔				⛭		⛭		●					●							
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	◔	⛭	⛭	●													
H	Hardened Steel																	●																				

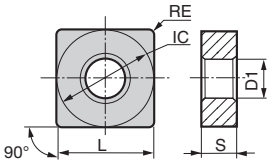
SUMIBORON (CBN) Inserts ☞ L63 on
SUMIDIA BINDERLESS Inserts ☞ M28
Ceramic Inserts ☞ B132
Applicable External Holders ☞ C19 to C24
Applicable Internal Holders ☞ E51 to E53

	Shape	Application Range	Cat. No.	Corner Radius RE
Chamfering	**SJ** 0°	P	**SNMG 120404N-SJ**	0.4
For Aluminum	**AX** 30°	N	**SNGG 120404R-AX**	0.4
			120404L-AX	0.4
			120408R-AX	0.8
			120408L-AX	0.8

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

SN■■1506●●

Dimensions (mm)	Cutting Edge Length L	15.875	Thickness S	6.35
	Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Recommended Application

		Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	◕	✖	○	◔	✱		◔		◔								○	●	●	●	●															
M	Stainless Steel			✱			✱		●	◕	✖	○	◔									✱		✱	◕	✱													
K	Cast Iron			✱			✱		●	◕	✖	○	◔	●	◕	✖	○	◔				✱		✱	◕					●									
N	Non-Ferrous Metal																																					●
S	Exotic Alloy													●	◕	✖	◔	✱				✱		✱	◕														
H	Hardened Steel												●																									

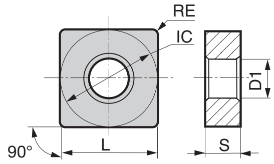
Applicable External Holders C19 to C22

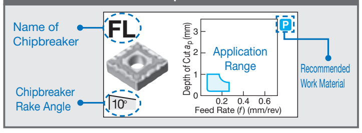
	Shape	Application Range	Cat. No.	Corner Radius RE
Light to Medium Cutting	**EX** 16°	(ap) 4 2 0 0.2 0.4 (f) M S	SNMG 150612N-EX	1.2
Medium Cutting	**GU** 7°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	SNMG 150608N-GU	0.8
			150612N-GU	1.2
			150616N-GU	1.6
	GE 3°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 150608N-GE	0.8
			150612N-GE	1.2
			150616N-GE	1.6
	UG 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	SNMG 150612N-UG	1.2
	EG 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f)	SNMG 150608N-EG	0.8
			150612N-EG	1.2
			150616N-EG	1.6
			SNMA 150612	1.2
			150616	1.6
Medium to Roughing	**MU** 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M S	SNMG 150608N-MU	0.8
			150612N-MU	1.2
			150616N-MU	1.6
	EM 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) M S	SNMG 150608N-EM	0.8
			150612N-EM	1.2
			150616N-EM	1.6
	ME 4°	(ap) 8 6 4 2 0 0.4 0.8 (f) P	SNMG 150608N-ME	0.8
			150612N-ME	1.2
			150616N-ME	1.6
	MX -15°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 150612N-MX	1.2
			150616N-MX	1.6
	UZ 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	SNMG 150612N-UZ	1.2
			150616N-UZ	1.6
	GZ 0°	(ap) 10 5 0 0.5 1.0 (f) K	SNMG 150612N-GZ	1.2
			150616N-GZ	1.6

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Negative Inserts

SN Square Type Neg. With Hole





● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
◕ : General Cutting 1st Recommendation ◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✕ : Interrupted Cutting 2nd Recommendation

SN■■1506●●

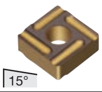
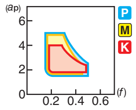
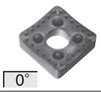
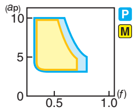
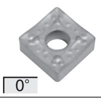
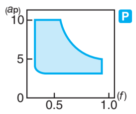
Dimensions (mm)				
	Cutting Edge Length L	15.875	Thickness S	6.35
	Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Applicable External Holders ☞C19 to C22

Recommended Application

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K
	Coated Carbide																
P Steel	●	◔	◕	✖	○	◔	✕		◔			◔					
M Stainless Steel				✕			✕	●	◕	✖	○	◔					
K Cast Iron			✕			✕							●	◕	✖	○	◔
N Non-Ferrous Metal																	
S Exotic Alloy																	
H Hardened Steel																	

Recommended Application	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide									Coated Cermet			Cermet		Cemented Carbide						
P Steel				✕		✕	◕			◕	✖	✕	●	◕							
M Stainless Steel				✕		✕	◕	✕													
K Cast Iron			✕		✕		◕						●								
N Non-Ferrous Metal																					◕
S Exotic Alloy		●	◕	✖	◔	✕	✕														
H Hardened Steel	●																				

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K
Medium to Roughing	HM  15°	 P M K	SNMG 150608R-HM	0.8								●	●	●							
			150608L-HM	0.8								●	●	●							
Heavy Cutting	MP  0°	 P M	SNMM 150612N-MP	1.2	●	○	●		●	●			●								
			150616N-MP	1.6	●	○	●		●	●			●								
Heavy Cutting	HG  0°	 P	SNMM 150616N-HG	1.6	●	○	●		●	●											

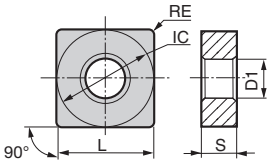
Cat. No.	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
SNMG 150608R-HM	—						—		—	—	—	—	—	—							—
150608L-HM	—						—		—	—	—	—	—	—							—
SNMM 150612N-MP	—						—		—	—	—	—	—	—							—
150616N-MP	—						—		—	—	—	—	—	—							—
SNMM 150616N-HG	—						—		—	—	—	—	—	—							—

○ mark: Stock or planned stock (please confirm stock availability)

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SN■■1906●●

Dimensions (mm)	Cutting Edge Length L	19.05	Thickness S	6.35
	Inscribed Circle IC	19.05	Hole Dia. D1	7.94

Recommended Application

		Coated Carbide																			Coated Cermet		Cermet	Cemented Carbide					
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✪		◔		◔																●	✖	✪	●	●							
M	Stainless Steel				✪			✪	●	●	✖	○	◔										✪	●	✪													
K	Cast Iron			✪			✪							●	●	✖	○	◔				✪		✪	●						●							
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	◔	✪	✪														
H	Hardened Steel																	●																				

Applicable External Holders ☞ C19 to C22 | Applicable Internal Holders ☞ E51, E52

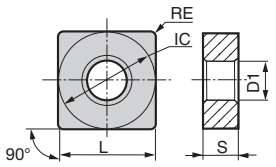
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**EX** 16°	(ap) 3 2 0 0.2 0.4 (f) M S	SNMG 190612N-EX	1.2																		○	●	●	●	●														
Medium Cutting	**UX** 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P K	SNMG 190612N-UX	1.2	●	○	●	●	●	●	●																														
			190616N-UX	1.6	●	○	●	●	●	●	●																														
	UG 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	SNMG 190612N-UG	1.2				●			●																														
			190616N-UG	1.6				●			●																														
	EG 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) M	SNMG 190612N-EG	1.2	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
			190616N-EG	1.6	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
			SNMA 190612	1.2													●	●	●	▲	▲																			
			190616	1.6													●	●	●	▲	▲																			
Medium to Roughing	**MU** 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M S	SNMG 190612N-MU	1.2	●	○	●	●	●	●	●		●			●							○	●	●	●	●														
			190616N-MU	1.6	●	○	●	●	●	●	●		●			●							○	●	●	●	●														
			190624N-MU	2.4	●	○	●	●	●	●	●												○	●	●	●	●														
	EM 0°	(ap) 10 5 0 0.5 1.0 (f) M S	SNMG 190612N-EM	1.2	●	○	●	●				●	●	●									○	●	●																
			190616N-EM	1.6	●	○	●	●				●	●	●									○	●	●																
			190624N-EM	2.4	●	○	●	●				●	●	●									○	●	●																
	ME 4°	(ap) 8 6 4 2 0 0.4 0.8 (f) P	SNMG 190612N-ME	1.2	●	○	●	●	●	●	●						●	●																						
			190616N-ME	1.6	●	○	●	●	●	●	●						●	●																						
			190624N-ME	2.4	●	○	●	●	●	●	●						●	●																						
	MX -15°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 190612N-MX	1.2			●	●		●	●																													
			190616N-MX	1.6			●	●		●	●																													
	UZ 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	SNMG 190608N-UZ	0.8																																			
			190612N-UZ	1.2			●	●		●	●						●	●	●	▲	▲															●				
			190616N-UZ	1.6			●	●		●	●						●	●	●	▲	▲																			
	GZ 0°	(ap) 10 5 0 0.5 1.0 (f) K	SNMG 190612N-GZ	1.2													●	●	●	▲	▲																			
			190616N-GZ	1.6													●	●	●	▲	▲																			
Heavy Cutting	**MP** 0°	(ap) 10 5 0 0.5 1.0 (f) P M	SNMM 190612N-MP	1.2	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●														
			190616N-MP	1.6	●	○	●	●	●	●	●	●	●	●		●							○	●	●	●														

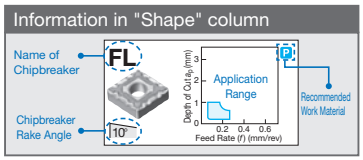
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Negative Inserts

Indexable Insert

SN Square Type / Neg. / With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SN■■1906●●

Dimensions (mm)	Cutting Edge Length L	19.05	Thickness S	6.35
	Inscribed Circle IC	19.05	Hole Dia. D1	7.94

Recommended Application

P	Steel	● ○ ✖
M	Stainless Steel	● ○ ✖
K	Cast Iron	● ○ ✖
N	Non-Ferrous Metal	● ○ ✖
S	Exotic Alloy	● ○ ✖
H	Hardened Steel	● ○ ✖

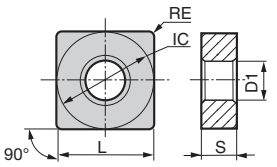
Applicable External Holders C19 to C22 — Applicable Internal Holders E51, E52

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cutting	**HG** 0°	ap 10 5 0 0.5 1.0 f P	**SNMM 190612N-HG**	1.2	●	○	●	●	●	●	●					●																								
			190616N-HG	1.6	●	○	●	●	●	●	●					●																								
			190624N-HG	2.4	●	○	●	●		●	●					●																								
	HP 0°	ap 10 5 0 0.5 1.0 f P	**SNMM 190612N-HP**	1.2			●	●		●	●					●																								
			190616N-HP	1.6			●	●		●	●					●																								
	HF -15°	ap 15 10 5 0 0.5 1.0 1.5 f P	**SNMM 190616N-HF**	1.6			●	●		●	●																												
			190624N-HF	2.4			●	●		●	●																													

○ mark: Stock or planned stock (please confirm stock availability)

Square Type Negative Inserts

SN Square Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SN■■2507●●

Dimensions (mm)	Cutting Edge Length L	25.4	Thickness S	7.94
	Inscribed Circle IC	25.4	Hole Dia. D1	9.12

Recommended Application

		Coated Carbide																								Coated Cermet		Cermet	Cemented Carbide								
P	Steel	●	◔	●	✖	○	◔	✖		◔		◔							✖	✖	✖	✖	✖	✖	✖	●	●	✖	✖	●	●							
M	Stainless Steel				✖			✖	●	●	✖	○	◔									✖		✖	●	✖											
K	Cast Iron			✖			✖							●	●	✖	○	◔			✖		✖		●					●							
N	Non-Ferrous Metal																																				●
S	Exotic Alloy																		●	●	✖	◔	✖	✖													
H	Hardened Steel																●																				
	Grade	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1

Applicable External Holders ☞ C19, C20, C22

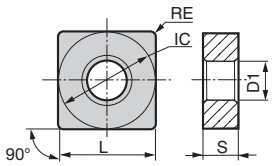
	Shape	Application Range	Cat. No.	Corner Radius RE
Medium Cutting	**UG**	P M	SNMG 250724N-UG	2.4
Heavy Cutting	**MP**	P	SNMM 250724N-MP	2.4
	HP	P	SNMM 250724N-HP	2.4
	HU	P	SNMM 250724N-HU	2.4
	HW	P	SNMM 250724N-HW	2.4
	HF	P	SNMM 250724N-HF 250732N-HF	2.4 3.2

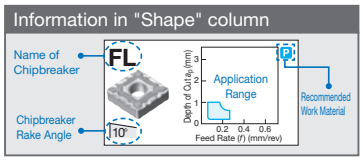
○ mark: Stock or planned stock (please confirm stock availability)

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

SN■■2509●●

Dimensions (mm)	Cutting Edge Length L	25.4	Thickness S	9.52
	Inscribed Circle IC	25.4	Hole Dia. D1	9.12

Recommended Application
P Steel
M Stainless Steel
K Cast Iron
N Non-Ferrous Metal
S Exotic Alloy
H Hardened Steel

Applicable External Holders ☞ C19, C20

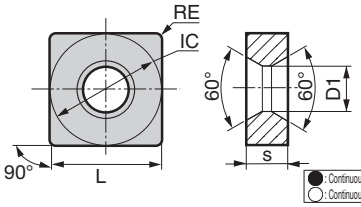
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	**UG**		**SNMG 250924N-UG**	2.4				●			●											—						—			—	—	—	—	—						—
Medium to Roughing	**MU**		**SNMG 250924N-MU**	2.4	●	○	●	●	●	●	●											—	○	●	●	●	●	—			—	—	—	—	—						—
	EM		**SNMG 250924N-EM**	2.4	●	○	●	●					●	●								—	○	●	●			—			—	—	—	—	—						—
	ME		**SNMG 250924N-ME**	2.4	●	○	●	●	●	●	●						●	●				—						—			—	—	—	—	—						—
	UZ		**SNMG 250924N-UZ**	2.4																		—						—			—	—	—	—	—						—
Heavy Cutting	**MP**		**SNMM 250924N-MP**	2.4	●	○	●		●	●			●			●						—						—			—	—	—	—	—						—
	HP		**SNMM 250924N-HP**	2.4	●	○	●		●	●						●						—						—			—	—	—	—	—						—
	HU		**SNMM 250924N-HU**	2.4	●	○	●		●	●						●						—						—			—	—	—	—	—						—
	HW		**SNMM 250924N-HW**	2.4	●	○	●		●	●						●						—						—			—	—	—	—	—						—
	HF		**SNMM 250924N-HF**	2.4			●	●		●	●					●						—						—			—	—	—	—	—						—
			250932N-HF	3.2			●	●		●	●											—						—			—	—	—	—	—						—

○ mark: Stock or planned stock (please confirm stock availability)

Square Type Negative Inserts

Indexable Insert

SN Square Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SN■■3109●●

Dimensions (mm)	Cutting Edge Length L	31.75	Thickness S	9.52
	Inscribed Circle IC	31.75	Hole Dia. D1	8.8

Recommended Application

		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide							
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	○	●	✖	○	○	✖	○	○	○	○	○											✖	●	●		●	✖	✖	●	●							
M	Stainless Steel			✖			✖		●	●	✖	○	○											✖	●	●													
K	Cast Iron		✖			✖								●	●	✖	○	○				✖		✖	●						●								
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	○	✖	○	✖	✖													
H	Hardened Steel																	●																					

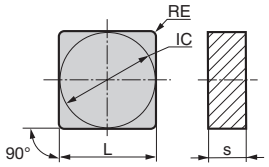
	Shape	Application Range	Cat. No.	Corner Radius RE																																				
Heavy Cutting	**MP**		**SNMM 310924N-MP**	2.4	●	○	●		●	●			●		●																				●					
	HP		**SNMM 310924N-HP**	2.4	●	○	●		●	●					●																									
	HU		**SNMM 310924N-HU**	2.4	●	○	●		●	●					●																									
	HW		**SNMM 310924N-HW**	2.4	●	○	●		●	●					●																									
	HF		**SNMM 310924N-HF**	2.4			●	●		●	●																													

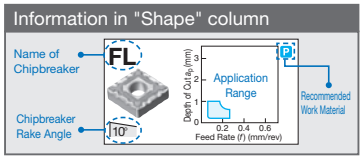
○ mark: Stock or planned stock (please confirm stock availability)

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. Without Hole





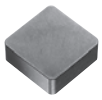
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

SN■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.18
	Inscribed Circle IC	9.525		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L65, L66 — Applicable External Holders ☞ L112

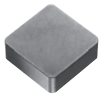
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SNGN 090304	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			090308	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			090312	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

SN■■1203●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	3.18
	Inscribed Circle IC	12.7		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

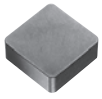
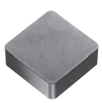
SUMIBORON (CBN) Inserts ☞ L67 — Applicable External Holders ☞ L112

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SNGN 120304	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120308	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120312	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

SN■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

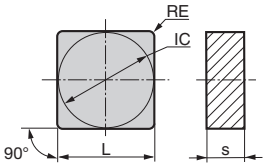
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SNMN 120404	0.4	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	▲	▲	—	○	●	●	●	—	—	●	—	—	—	—	●	●	●	—	—	—	—
			120408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	▲	▲	—	○	●	●	●	—	—	●	—	—	—	—	●	●	●	●	●	●	—
			120412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	▲	▲	—	○	●	●	●	—	—	●	—	—	—	—	●	●	●	●	●	●	—
			120416	1.6	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	▲	▲	—	○	●	●	●	—	—	●	—	—	—	—	●	●	●	—	—	—	—
			120420	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—
			120424	2.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—
			SNGN 120404	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	—	—
			120408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120416	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Negative Inserts

Indexable Insert

SN Square Type Neg. Without Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

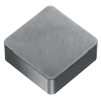
●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

SN■■1207●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	7.94
	Inscribed Circle IC	12.7		

Ceramic Inserts B132

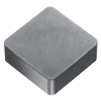
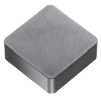
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**SNGN 120708**	0.8																																						
			120712	1.2																																						
			120716	1.6																																						
			120720	2.0																																						

SN■■1504●●

Dimensions (mm)	Cutting Edge Length L	15.875	Thickness S	4.76
	Inscribed Circle IC	15.875		

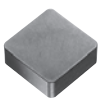
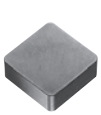
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**SNMN 150408**	0.8																																●			●			
			150412	1.2																																						
			**SNGN 150408**	0.8																																						
			150412	1.2																																						
			150416	1.6																																						

SN■■1904●●

Dimensions (mm)	Cutting Edge Length L	19.05	Thickness S	4.76
	Inscribed Circle IC	19.05		

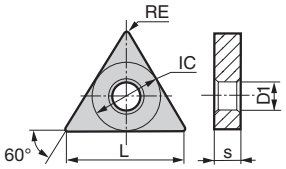
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

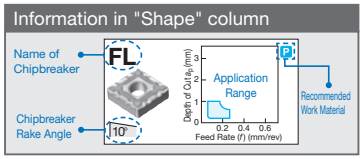
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**SNMN 190412**	1.2																																	●	●				
			**SNGN 190402**	0.2																																						
			190404	0.4																																						
			190408	0.8																																						
			190412	1.2																																						
			190416	1.6																																						

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TN■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56	Hole Dia. D1	2.57

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX		TNGG 090204R-GX	0.4																																				
			090204L-GX	0.4																																				
			090208R-GX	0.8																																				
			090208L-GX	0.8																																				

*1: Photo shows left-handed.

TN■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.26

Applicable External Holders C30 to C32

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

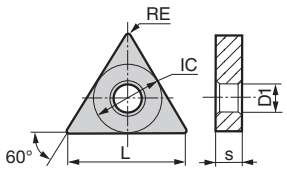
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FT		TNGG 110302R-FT	0.2																													●	●	●						
			110302L-FT	0.2																													●	●	●						
			110304R-FT	0.4																													●	●	●	●					
			110304L-FT	0.4																													●	●	●	●					
			110308R-FT	0.8																																					
			110308L-FT	0.8																																					
Light Cutting	GX		TNGG 110302R-GX	0.2																																					
			110302L-GX	0.2																																					
			110304R-GX	0.4																																					
			110304L-GX	0.4																																					
			110308R-GX	0.8																																					
			110308L-GX	0.8																																					
Medium Cutting			TNMA 110304	0.4																																					
			110308	0.8																																					
			TNGA 110302	0.2																																					
			110304	0.4																																					
			110308	0.8																																					

*1: Photo shows left-handed.

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TN■■11T2●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	2.78
	Inscribed Circle IC	6.35	Hole Dia. D1	2.76

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX	(ap) 2 1 0 0.2 0.4 (f) P M N	TNGG 11T204R-GX	0.4																														●		●			●
	15° *1		11T204L-GX	0.4																														●		●			●
			11T208R-GX	0.8																														●		●			●
			11T208L-GX	0.8																														●		●			●
Medium Cutting			TNGA 11T204	0.4																																			●

*1: Photo shows left-handed.

TN■■1303●●

Dimensions (mm)	Cutting Edge Length L	13.7	Thickness S	3.18
	Inscribed Circle IC	7.94	Hole Dia. D1	3.15

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX	(ap) 2 1 0 0.2 0.4 (f) P M N	TNGG 130304R-GX	0.4																														●		●			●
	15° *1		130304L-GX	0.4																														●		●			●
			130308R-GX	0.8																														●		●			●
			130308L-GX	0.8																														●		●			●

*1: Photo shows left-handed.

TN■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Applicable External Holders ☞ C30 to C32

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	ST	(ap) 2 1 0 0.2 0.4 (f) P	TNGG 160302R-ST	0.2																													●	●					
	*1		160302L-ST	0.2																													●	●					
	0°		160304R-ST	0.4																													●	●		●			
			160304L-ST	0.4																													●	●		●			
			160308R-ST	0.8																													●	●					
			160308L-ST	0.8																													●	●					
Light to Medium Cutting	SX	(ap) 2 0 0.2 0.4 (f) P	TNMG 160304N-SX	0.4	●	○	●			●																														
	3°		160308N-SX	0.8	●	○	●	●		●	●																														

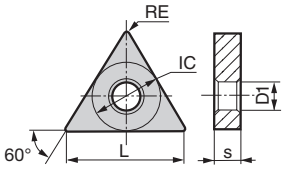
*1: Photo shows left-handed.

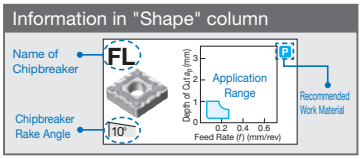
○ mark: Stock or planned stock (please confirm stock availability)

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type Neg. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TN■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Applicable External Holders C30 to C32

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

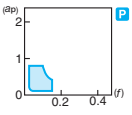
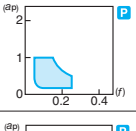
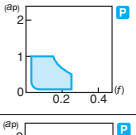
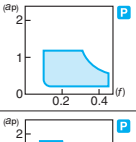
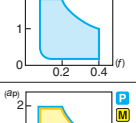
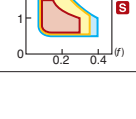
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			TNMA 160304	0.4																																			
			160308	0.8																																			
			160312	1.2																																			
			TNGA 160302	0.2																																			
			160304	0.4																																	●		●
			160308	0.8																																	●		
			160312	1.2																																			

TN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

SUMIBORON (CBN) Inserts L72 on
SUMIDIA (PCD) Inserts M16
Ceramic Inserts B132
Applicable External Holders C27 to C33, D16, D20
Applicable Internal Holders E15, E61 to E63

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

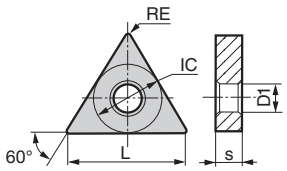
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB**  27°		TNMG 160402N-FB	0.2										●																●	●	▲	●	●						
			160404N-FB	0.4										●																●	●	▲	●	●						
			160408N-FB	0.8										●																●	●	▲	●	●						
	FA  20°		TNMG 160402N-FA	0.2																										●	●	▲	●	●						
			160404N-FA	0.4																										●	●	▲	●	●						
			160408N-FA	0.8																										●	●	▲	●	●						
			160412N-FA	1.2																																			
	FL  10°		TNMG 160404N-FL	0.4			●			●						●														●	●	▲	●	●						
			160408N-FL	0.8			●			●						●														●	●	▲	●	●						
	FE  20°		TNMG 160402N-FE	0.2	●	○	●	●	●		●		●	●																●	●	▲	●	●						
			160404N-FE	0.4	●	○	●	●	●		●		●	●																●	●	▲	●	●						
			160408N-FE	0.8	●	○	●	●	●		●		●	●																●	●	▲	●	●						
			160412N-FE	1.2	●	○	●	●	●		●		●	●																●	●	▲	●	●						
Finishing	**LU**  10°		TNMG 160402N-LU	0.2									●			●														●	●	▲	●	●						
			160404N-LU	0.4	●	○	●	●	●	●	●		●			●														●	●	▲	●	●						
			160408N-LU	0.8	●	○	●	●	●	●	●		●			●														●	●	▲	●	●						
			160412N-LU	1.2	●	○	●	●	●	●	●		●			●														●	●	▲		●						
	SU  13°		TNMG 160402N-SU	0.2								●	●	●		●						○	●	●		●		●		●	●	▲	●	●						
			160404N-SU	0.4	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●						
			160408N-SU	0.8	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●						
			160412N-SU	1.2	●	○	●		●	●		●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●						

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type Neg. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

TN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L72 on | SUMIDIA (PCD) Inserts M16 | Ceramic Inserts B132

Applicable External Holders C27 to C33, D16, D20 | Applicable Internal Holders E15, E61 to E63

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**SU** 13°		TNGG 160402N-SU	0.2																			●	●	●	●				●	●	▲	●	●							
			160404N-SU	0.4																			●	●	●	●				●	●	▲	●	●							
			160408N-SU	0.8																			●	●	●	●				●	●	▲	●	●							
	SE 5°		TNMG 160404N-SE	0.4	●	○	●	●	●	●	●																			●	●		●	●							
			160408N-SE	0.8	●	○	●	●	●	●	●																			●	●		●	●							
			160412N-SE	1.2	●	○	●	●	●	●	●																															
	EF 20°	M S	TNMG 160404N-EF	0.4	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●	
			160408N-EF	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●	
	FY 15°		TNGG 160401R-FY	0.1																										●			●	●							
			160401L-FY	0.1																										●			●	●							
			160402R-FY	0.2																			●	●			●	●	●	●	●	▲	●	●							
			160402L-FY	0.2																			●	●			●	●	●	●	●	▲	●	●							
			160404R-FY	0.4																			●	●			●	●	●	●	●	▲	●	●							
			160404L-FY	0.4																			●	●			●	●	●	●	●	▲	●	●							
			160408R-FY	0.8																									●	●	●		●	●							
			160408L-FY	0.8																									●	●	●		●	●							
			160412R-FY	1.2																											●			●							
			160412L-FY	1.2																											●			●							
	FX 14°		TNGG 160402R-FX	0.2																			●	●			●	●	●	●	●	▲	●	●							
			160402L-FX	0.2																			●	●			●	●	●	●	●	▲	●	●							
			160404R-FX	0.4																			●	●			●	●	●	●	●	▲	●	●							
			160404L-FX	0.4																			●	●			●	●	●	●	●	▲	●	●							
			160408R-FX	0.8																									●												
			160408L-FX	0.8																									●												
Light Cutting	**ST** *1 0°		TNGG 160402R-ST	0.2																														●	●							
			160402L-ST	0.2																														●	●							
			160404R-ST	0.4																														●	●							
			160404L-ST	0.4																														●	●							
			160408R-ST	0.8																														●	●							
			160408L-ST	0.8																														●	●							
			160412R-ST	1.2																															●							
			160412L-ST	1.2																															●							
	GX *1 15°	P M N	TNGG 160404R-GX	0.4																																●		●			●	
			160404L-GX	0.4																																●		●			●	
			160408R-GX	0.8																																		●				
			160408L-GX	0.8																																●		●			●	
			160412R-GX	1.2																																						
			160412L-GX	1.2																																						
Light to Medium Cutting	**SX** 3°		TNMG 160404N-SX	0.4	●	○	●	●	●	●	●																			●	●	▲		●							
			160408N-SX	0.8	●	○	●	●	●	●	●																			●	●	▲		●							
			160412N-SX	1.2																																						
			160416N-SX	1.6																																						

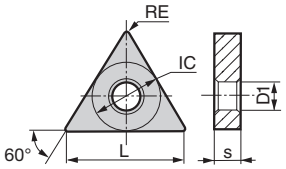
*1: Photo shows left-handed.

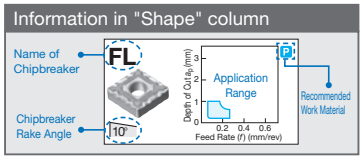
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

TN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L72 on SUMIDIA (PCD) Inserts ☞M16
Ceramic Inserts ☞B132
Applicable External Holders ☞C27 to C33, D16, D20 Applicable Internal Holders ☞E15, E61 to E63

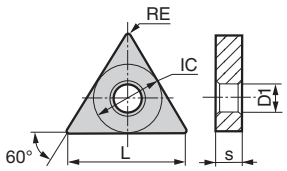
					Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide						
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**EX** 16°		TNMG 160404N-EX	0.4								●	●	●	▲	●						○	●	●	●	●		●													
			160408N-EX	0.8								●	●	●	▲	●						○	●	●	●	●		●													
			160412N-EX	1.2								●	●	●	▲	●						○	●	●	●	●		●													
	UP 10°		TNMG 160404N-UP	0.4						●	●	●	●	●		●						○	●	●	●	●		●										●			
			160408N-UP	0.8						●	●	●	●	●		●						○	●	●	●	●		●										●			
			160412N-UP	1.2						●		●	●	●		●						○	●	●	●	●		●													
Medium Cutting	**GU** 7°		TNMG 160404N-GU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●		●	●			●							
			160408N-GU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●		●	●			●							
			160412N-GU	1.2	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●													
			160416N-GU	1.6	●	○	●	●		●	●						●	●																								
	GE 3°		TNMG 160404N-GE	0.4	●	○	●	●	●	●	●																														
			160408N-GE	0.8	●	○	●	●	●	●	●																														
			160412N-GE	1.2	●	○	●	●	●	●	●																														
	UX 0°		TNMG 160404N-UX	0.4	●	○	●	●	●	●	●																														
			160408N-UX	0.8	●	○	●	●	●	●	●																														
			160412N-UX	1.2	●	○	●	●	●	●	●																														
	UG 4°		TNMG 160404N-UG	0.4			●	●		●	●																								●			●			
			160408N-UG	0.8			●	●		●	●																											●			
			160412N-UG	1.2			●	●		●	●																														
			160416N-UG	1.6			●	●		●	●																														
	EG 0°		TNMG 160404N-EG	0.4	●	○	●	●				●	●	●									○	●	●															●	●
			160408N-EG	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●
			160412N-EG	1.2	●	○	●	●				●	●	●		●							○	●	●	●	●													●	●
	UM 0°		TNMG 160404R-UM	0.4																											●	●	▲	●	●							
			160404L-UM	0.4																											●	●	▲	●	●							
			160408R-UM	0.8																											●	●	▲	●	●							
			160408L-UM	0.8																											●	●	▲	●	●							
	UM 0°		TNGG 160402R-UM	0.2																											●	●	▲	●	●	●	●		●			
			160402L-UM	0.2																											●	●	▲	●	●		●		●			
			160404R-UM	0.4																											●	●	▲	●	●	●	●	●	●			●
			160404L-UM	0.4																											●	●	▲	●	●	●	●	●	●			●
			160408R-UM	0.8																											●	●	▲	●	●	●	●	●	●			●
			160408L-UM	0.8																											●	●	▲	●	●	●	●	●	●			●
			160412R-UM	1.2																														●	●		●					
			160412L-UM	1.2																														●	●							
			160416R-UM	1.6																																						
			160416L-UM	1.6																																						
			TNMA 160404	0.4													●	●	●	▲	▲		○	●	●	●													●			
			160408	0.8													●	●	●	▲	▲		○	●	●	●													●			●
			160412	1.2													●	●	●	▲	▲																		●			
			160416	1.6													●	●	●	▲	▲																					
			160420	2.0													●	●	●	▲	▲																					

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

TN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L72 on | SUMIDIA (PCD) Inserts M16 | Ceramic Inserts B132

Applicable External Holders C27 to C33, D16, D20 | Applicable Internal Holders E15, E61 to E63

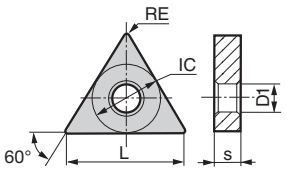
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			TNGA 160402	0.2																		●																		
			160404	0.4																		●		●	●	●								●				●		●
			160408	0.8																		●												●	●			●		●
			160412	1.2																																	●			
			160416	1.6																																	●			
Medium to Roughing	**MU** 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M S	TNMG 160408N-MU	0.8	●	○	●	●	●	●	●		●			●						○	●	●	●	●		●												
			160412N-MU	1.2	●	○	●	●	●	●	●		●			●						○	●	●	●	●		●												
	EM 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) M S	TNMG 160408N-EM	0.8	●	○	●	●				●	●	●								○	●	●																
			160412N-EM	1.2	●	○	●	●				●	●	●								○	●	●																
	ME 4°	(ap) 8 6 4 2 0 0.4 0.8 (f) P	TNMG 160408N-ME	0.8	●	○	●	●	●	●	●						●	●																					
			160412N-ME	1.2	●	○	●	●	●	●	●						●	●																					
	MX -15°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	TNMG 160408N-MX	0.8			●	●		●	●																												
			160412N-MX	1.2			●	●		●	●																													
	UZ 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	TNMG 160404N-UZ	0.4			●			●							●	●	●	▲	▲																●			
			160408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲																		
			160412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲																		
			160416N-UZ	1.6			●			●							●	●	●	▲	▲																		
			160420N-UZ	2.0			●			●							●	●	●	▲	▲																		
	GZ 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) K	TNMG 160404N-GZ	0.4						●							●	●	●	▲	▲																		
			160408N-GZ	0.8						●							●	●	●	▲	▲																		
			160412N-GZ	1.2						●							●	●	●	▲	▲																		
	HM 15°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M K	TNMG 160404R-HM	0.4	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●															
			160404L-HM	0.4	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●															
			160408R-HM	0.8	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●															
			160408L-HM	0.8	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●															
	MM 10°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	TNGG 160404R-MM	0.4																																			
			160404L-MM	0.4																																			
			160408R-MM	0.8																																			
			160408L-MM	0.8																																			
Heavy Cutting	**MP** 0°	(ap) 6 4 2 0 0.4 0.8 (f) P	TNMM 160404N-MP	0.4			●			●																													
			160408N-MP	0.8			●	●	●	●	●																													
			160412N-MP	1.2			●	●	●	●	●																													
			160416N-MP	1.6			●	●	●	●	●																													
	HP 0°	(ap) 6 4 2 0 0.4 0.8 (f) P	TNMM 160408N-HP	0.8			●	●		●	●																													
			160412N-HP	1.2			●	●		●	●																													

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / With Hole



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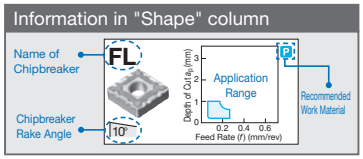


● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

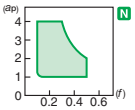
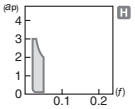
TN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L72 on | SUMIDIA (PCD) Inserts M16 | Ceramic Inserts B132

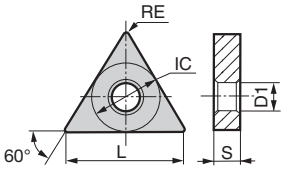
Applicable External Holders C27 to C33, D16, D20 | Applicable Internal Holders E15, E61 to E63

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	**AX**		**TNGG 160402R-AX**	0.2																																			●
			160402L-AX	0.2																																			●
			160404R-AX	0.4																																			●
			160404L-AX	0.4																																			●
			160408R-AX	0.8																																			●
			160408L-AX	0.8																																			●
Light Cutting of Hardened Steel	**GH**		**TNGG 160402N-GH**	0.2																	●																		
			160404N-GH	0.4																	●																		
			160408N-GH	0.8																	●																		

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type Neg. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TN■■2204●●

Dimensions (mm)	Cutting Edge Length L	22.0	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L77

Applicable External Holders C28 to C33 Applicable Internal Holders E62, E63

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**SE**		TNMG 220404N-SE	0.4	●	○	●	●	●	●	●																															
			220408N-SE	0.8	●	○	●	●	●	●	●																															
			220412N-SE	1.2	●	○	●	●	●	●	●																															
Light Cutting	**GX**		TNGG 220408R-GX	0.8																																					
			220408L-GX	0.8																																					
Light to Medium Cutting	**SX**		TNMG 220404N-SX	0.4	●	○	●	●		●	●																															
			220408N-SX	0.8	●	○	●	●		●	●																															
			220412N-SX	1.2	●	○	●	●		●	●																															
	UP		TNMG 220408N-UP	0.8						●	●												○	●	●	●	●												●			
			220412N-UP	1.2						●	●																															
Medium Cutting	**GU**		TNMG 220404N-GU	0.4			●			●							●	●																							
			220408N-GU	0.8	●	○	●	●	●	●	●						●	●																							
			220412N-GU	1.2	●	○	●	●	●	●	●						●	●																							
	GE		TNMG 220408N-GE	0.8	●	○	●	●	●	●	●																															
			220412N-GE	1.2	●	○	●	●	●	●	●																															
	UX		TNMG 220408N-UX	0.8	●	○	●	●	●	●	●																															
			220412N-UX	1.2	●	○	●	●	●	●	●																															
	UG		TNMG 220408N-UG	0.8			●	●		●	●																															
			220412N-UG	1.2			●	●		●	●																															
			220416N-UG	1.6																																					
	UM		TNMG 220404R-UM	0.4																															●						
			220404L-UM	0.4																															●						
			220408R-UM	0.8																															●						
			220408L-UM	0.8																															●						
	UM		TNGG 220404R-UM	0.4																															●	●	●	●	●		
			220404L-UM	0.4																															●	●	●	●	●		
			220408R-UM	0.8																															●	●		●	●		
			220408L-UM	0.8																															●	●		●	●		
			TNMA 220404	0.4																																					
			220408	0.8													●	●	●	▲	▲																		●		
			220412	1.2													●	●	●	▲	▲																		●		
			220416	1.6													●	●	●	▲	▲																				
			220420	2.0																																					

*1: Photo shows left-handed.

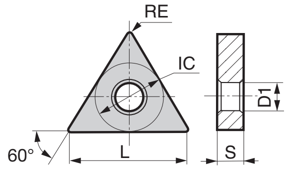
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

IGETALLOY

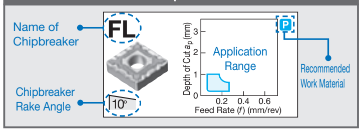
Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type Neg. With Hole



Information in "Shape" column



● : Continuous Cutting 1st Recommendation / ○ : Continuous Cutting 2nd Recommendation
G● : General Cutting 1st Recommendation / G○ : General Cutting 2nd Recommendation
I● : Interrupted Cutting 1st Recommendation / I○ : Interrupted Cutting 2nd Recommendation

TN■■2204●●

Dimensions (mm)				
Cutting Edge Length L	22.0	Thickness S	4.76
Inscribed Circle IC	12.7	Hole Dia. D1	5.16

SUMIBORON (CBN) Inserts ☞ L77

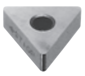
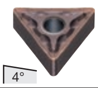
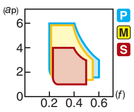
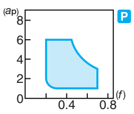
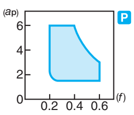
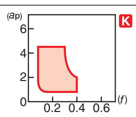
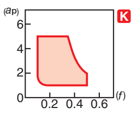
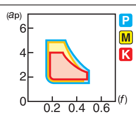
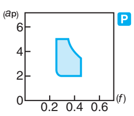
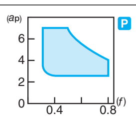
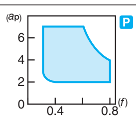
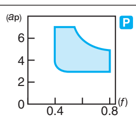
Applicable External Holders ☞ C28 to C33

Applicable Internal Holders ☞ E62, E63

Recommended Application

	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	G○	G●	I●	○	G○	I○		G○			G○									I○		I○	G●			G●	I●	I○	●	G●							
M Stainless Steel				I○			I○	●	G●	I●	○	G○									I○		I○	G●	I○													
K Cast Iron			I○			I○							●	G●	I●	○	G○			I○		I○		G●						●								
N Non-Ferrous Metal																																						G●
S Exotic Alloy																			●	G●	I●	G○	I○	I○														
H Hardened Steel																		●																				

Coated Carbide: AC8015P to ACZ150 / Coated Cermet: T1500Z, T2500Z, T3000Z / Cermet: T1000A, T1500A / Cemented Carbide: ST10P to H1

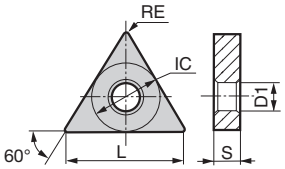
Type	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			TNGA 220404	0.4	—	—	—	—	—	—	—	—	—	—	—	—																							●			
			220408	0.8	—	—	—	—	—	—	—	—	—	—	—	—																							●			●
			220412	1.2	—	—	—	—	—	—	—	—	—	—	—	—																										
			220416	1.6	—	—	—	—	—	—	—	—	—	—	—	—																										
Medium to Roughing	MU  4°	 P M S	TNMG 220408N-MU	0.8	●	○	●	●	●	●	●											—	○	●	●	●	●	—		—	—	—	—	—	—							—
			220412N-MU	1.2	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			220416N-MU	1.6	●	○	●	●	●	●	●											—						—		—												
	ME  4°	 P	TNMG 220408N-ME	0.8	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			220412N-ME	1.2	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			220416N-ME	1.6	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
	MX  -15°	 P	TNMG 220408N-MX	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—
			220412N-MX	1.2			●	●		●	●											—						—		—	—	—	—	—	—							—
	UZ  4°	 K	TNMG 220408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲	—						—		—	—	—	—	—	—			●	●			—
			220412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲	—						—		—	—	—	—	—	—			●				—
			220416N-UZ	1.6			●	●		●	●						●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			220420N-UZ	2.0																		—						—		—	—	—	—	—	—							—
	GZ  0°	 K	TNMG 220408N-GZ	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			220412N-GZ	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			220416N-GZ	1.6													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
	HM  15°	 P M K	TNMG 220404R-HM	0.4	●	○	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			220404L-HM	0.4	●	○	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			220408R-HM	0.8	●	○	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			220408L-HM	0.8	●	○	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
	MM  0°	 P	TNGG 220404R-MM	0.4																		—						—		—	—	—	—	—	—							—
			220404L-MM	0.4																		—						—		—	—	—	—	—	—							—
			220408R-MM	0.8																		—						—		—	—	—	—	—	—		●					—
			220408L-MM	0.8																		—						—		—	—	—	—	—	—		●					—
			220412R-MM	1.2																		—						—		—	—	—	—	—	—							—
			220412L-MM	1.2																		—						—		—	—	—	—	—	—							—
			220416R-MM	1.6																		—						—		—	—	—	—	—	—							—
			220416L-MM	1.6																		—						—		—	—	—	—	—	—							—
Heavy Cutting	MP  0°	 P	TNMM 220408N-MP	0.8			●	●	●	●	●											—						—		—	—	—	—	—	—							—
			220412N-MP	1.2			●	●	●	●	●											—						—		—	—	—	—	—	—							—
			220416N-MP	1.6			●	●	●	●	●											—						—		—	—	—	—	—	—							—
	HG  0°	 P	TNMM 220408N-HG	0.8			●	●	●	●	●											—						—		—	—	—	—	—	—							—
			220412N-HG	1.2			●	●	●	●	●											—						—		—	—	—	—	—	—							—
			220416N-HG	1.6			●	●	●	●	●											—						—		—	—	—	—	—	—							—
	HP  0°	 P	TNMM 220408N-HP	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—
			220412N-HP	1.2			●	●		●	●											—						—		—	—	—	—	—	—							—
			220416N-HP	1.6			●			●												—						—		—	—	—	—	—	—							—

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◕ : General Cutting 1st Recommendation
◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✪ : Interrupted Cutting 2nd Recommendation

TN■■2706●●

Dimensions (mm)	Cutting Edge Length L	27.5	Thickness S	6.35
	Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Applicable External Holders ☞ C28, C29

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																									Coated Cermet			Cermet		Cemented Carbide						
Medium Cutting	UG	P M	TNMG 270608N-UG	0.8																																						
			TNMG 270612N-UG	1.2																																						
			TNMG 270616N-UG	1.6																																						
Medium to Roughing	MU	P M S	TNMG 270612N-MU	1.2			●	●		●	●																														
			TNMG 270616N-MU	1.6			●			●																																
	UZ	K	TNMG 270608N-UZ	0.8			●			●																																
			TNMG 270612N-UZ	1.2			●			●																																
			TNMG 270616N-UZ	1.6			●	●		●	●																																
Rough to Heavy Cut	MP	P M	TNMM 270612N-MP	1.2			●			●																																
			TNMM 270616N-MP	1.6			●			●																																
Heavy Cutting	HP	P	TNMM 270612N-HP	1.2			●	●		●	●																														
			TNMM 270616N-HP	1.6			●	●		●	●																																

TN■■3309●●

Dimensions (mm)	Cutting Edge Length L	33.0	Thickness S	9.52
	Inscribed Circle IC	19.05	Hole Dia. D1	7.93

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

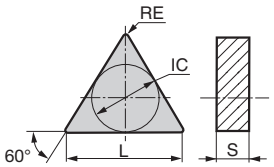
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																									Coated Cermet			Cermet		Cemented Carbide						
Medium to Roughing	EM	M S	TNMG 330924N-EM	2.4			●	●					●	●									○	●	●																	

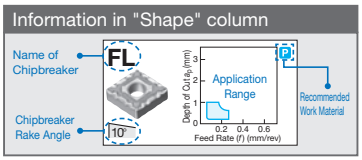
○ mark: Stock or planned stock (please confirm stock availability)

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / Without Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TN■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TNMN 160304**	0.4																																		
			160308	0.8																																		
			TNGN 160304	0.4	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—			—	—	—									
			160308	0.8	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—			—	—	—									
			160312	1.2	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—			—	—	—									

TN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L78

Applicable External Holders ☞ L112

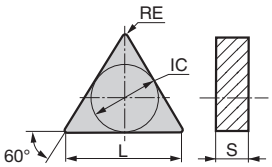
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TNMN 160404**	0.4																																●			
			160408	0.8													●	●	●	▲	▲														●		●			
			160412	1.2													●	●	●	▲	▲																			
			160416	1.6													●	●	●	▲	▲																			
			160420	2.0																																				
			TNGN 160404	0.4	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—			—	—	—								●		
			160408	0.8	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—			—	—	—								●		
			160412	1.2	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—			—	—	—										

▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Negative Inserts

Indexable Insert

TN Triangular Type / Neg. / Without Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

TN■■1607●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	7.94
	Inscribed Circle IC	9.525		

Ceramic Inserts ☞ B132

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TNGN 160712**	1.2																																				

TN■■2204●●

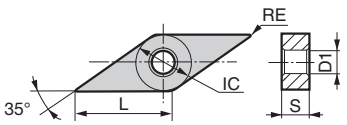
Dimensions (mm)	Cutting Edge Length L	22.0	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

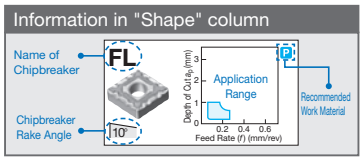
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TNMN 220408**	0.8																														●		●				
			220412	1.2																																				
			220416	1.6																																				
			TNGN 220404	0.4																																				
			220408	0.8																																				
			220412	1.2																																				
			220416	1.6																																				

35° Diamond Type Negative Inserts Indexable Insert

VN 35° Diamond Type Neg. With Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

VN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L94 on | SUMIDIA (PCD) Inserts M22 | SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B132 | Applicable External Holders C36, C37

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°		VNMG 160404N-FB	0.4										●																●	●	▲	●	●							
			160408N-FB	0.8										●																●	●	▲	●	●							
	FA 20°		VNMG 160404N-FA	0.4																										●	●	▲	●	●							
			160408N-FA	0.8																										●	●	▲	●	●							
	FL 10°		VNMG 160404N-FL	0.4			●			●						●														●	●	▲	●	●							
			160408N-FL	0.8			●			●						●														●	●	▲	●	●							
			160412N-FL	1.2																																					
	FE 20°		VNMG 160402N-FE	0.2	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			160404N-FE	0.4	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			160408N-FE	0.8	●	○	●	●	●		●		●	●																●	●	▲	●	●							
			160412N-FE	1.2	●	○	●	●	●		●		●	●																●	●	▲	●	●							
	LU 10°		VNMG 160402N-LU	0.2									●			●														●	●	▲	●	●							
			160404N-LU	0.4	●	○	●		●	●			●			●														●	●	▲	●	●							
			160408N-LU	0.8	●	○	●		●	●			●			●														●	●	▲	●	●							
			160412N-LU	1.2	●	○			●																																
	SU 13°		VNMG 160402N-SU	0.2								●	●	●		●						○	●	●		●		●		●	●	▲	●	●							
			160404N-SU	0.4	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●							
			160408N-SU	0.8	●	○	●	●	●	●	●	●	●	●		●						○	●	●	●	●		●		●	●	▲	●	●							
	SU 13°		VNGG 160402N-SU	0.2																										●	●	▲	●	●							
			160404N-SU	0.4																										●	●	▲	●	●							
			160408N-SU	0.8																										●	●	▲	●	●							
	SE 5°		VNMG 160404N-SE	0.4	●	○	●	●	●	●	●																			●	●		●	●							
			160408N-SE	0.8	●	○	●	●	●	●	●																			●	●		●	●							
Finishing	**EF** 20°		VNMG 160402N-EF	0.2	●	○	●	●				●	●	●		●						○	●	●	●	●													●	●	
			160404N-EF	0.4	●	○	●	●				●	●	●		●						○	●	●	●	●													●	●	
			160408N-EF	0.8	●	○	●	●				●	●	●		●						○	●	●	●	●													●	●	
	EF 20°		VNGG 160402N-EF	0.2												●							●	●	●	●													●	●	
			160404N-EF	0.4												●							●	●	●	●													●	●	
	FY *1 15°		VNGG 160402R-FY	0.2																						●														
			160402L-FY	0.2																						●														
			160404R-FY	0.4																						●														
			160404L-FY	0.4																						●														
			160408R-FY	0.8																						●														
			160408L-FY	0.8																						●														
	FX *1 14°		VNGG 160402R-FX	0.2																						●														
			160402L-FX	0.2																						●														
			160404R-FX	0.4																						●														
			160404L-FX	0.4																						●														
			160408R-FX	0.8																						●														
			160408L-FX	0.8																						●														
Light to Medium Cutting	**SX** 3°		VNMG 160404N-SX	0.4	●	○	●	●	●	●	●																			●	●			●						
			160408N-SX	0.8	●	○	●	●	●	●	●																			●	●			●						
			160412N-SX	1.2																																					

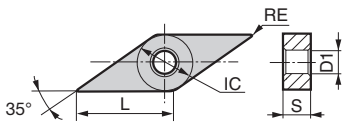
*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

35° Diamond Type Negative Inserts

Indexable Insert

VN — 35° Diamond Type / Neg. / With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

VN■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L94 on | SUMIDIA (PCD) Inserts M22 | SUMIDIA BINDERLESS Inserts M28

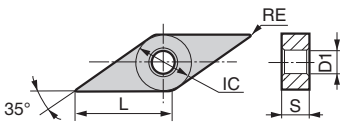
Ceramic Inserts B132 | Applicable External Holders C36, C37

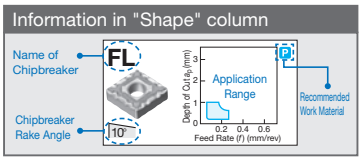
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	T1000A	Cermet: T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	EX		VNMG 160404N-EX	0.4								●	●	●	▲	●						○	●	●	●	●		●														
			160408N-EX	0.8								●	●	●	▲	●						○	●	●	●	●		●														
	UP		VNMG 160404N-UP	0.4						●	●	●	●	●		●																							●			
			160408N-UP	0.8						●	●	●	●	●		●																							●			
Medium Cutting	GU		VNMG 160404N-GU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●	●	●				○	●	●		●		●		●	●			●								
			160408N-GU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●	●	●				○	●	●		●		●		●	●			●								
			160412N-GU	1.2	●	○	●	●		●	●			●			●	●				○	●	●		●		●														
	GE		VNMG 160404N-GE	0.4	●	○	●	●	●	●	●																															
			160408N-GE	0.8	●	○	●	●	●	●	●																															
			160412N-GE	1.2	●	○	●	●	●	●	●																															
	UX		VNMG 160404N-UX	0.4	●	○	●	●	●	●	●																															
			160408N-UX	0.8	●	○	●	●	●	●	●																															
			160412N-UX	1.2	●	○	●	●	●	●	●																															
	UG		VNMG 160404N-UG	0.4			●	●		●	●																															
			160408N-UG	0.8			●	●		●	●																															
	EG		VNMG 160404N-EG	0.4	●	○	●	●				●	●	●									○	●	●																	
			160408N-EG	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●														●	●
			160412N-EG	1.2	●	○	●	●				●	●	●									○	●	●																
			VNMA 160404	0.4													●	●	●	▲	▲																				
			160408	0.8													●	●	●	▲	▲																				
			160412	1.2													●	●	●	▲	▲																				
			VNGA 160404	0.4																		●																			
			160408	0.8																		●																			
Medium to Roughing	UZ		VNMG 160404N-UZ	0.4			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●									●	●		●			
			160408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●									●	●		●			
			160412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲															●			●			
	GZ		VNMG 160404N-GZ	0.4						●							●	●	●	▲	▲																				
			160408N-GZ	0.8						●							●	●	●	▲	▲																				
			160412N-GZ	1.2						●							●	●	●	▲	▲																				
For Aluminum	AX		VNGG 160402R-AX	0.2																																					●
			160402L-AX	0.2																																					●
			160404R-AX	0.4																																					●
			160404L-AX	0.4																																					●
			160408R-AX	0.8																																					●
			160408L-AX	0.8																																					●

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

35° Diamond Type Negative Inserts Indexable Insert

VN 35° Diamond Type / Neg. / With Hole





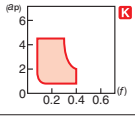
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

VN■■2204●●

Dimensions (mm)	Cutting Edge Length L	22.1	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

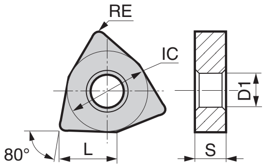
Recommended Application

		Coated Carbide																							Coated Cermet			Cermet	Cemented Carbide							
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✖	✖	●	✖	○	◔									✖	✖	✖	✖	✖		●	✖	✖	●	●							
M	Stainless Steel			✖			✖	✖	●	●	✖	○	◔									✖	✖	✖	✖	●													
K	Cast Iron		✖			✖		✖				●	●	●	✖	○	◔				✖			✖	✖	●						●							
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	◔	✖	✖	✖													
H	Hardened Steel																	●																				

	Shape	Application Range	Cat. No.	Corner Radius RE
Medium to Roughing	**UZ** 		**VNMG 220408N-UZ**	0.8
			220412N-UZ	1.2

Trigon Type Negative Inserts

WN Trigon Type Neg. With Hole



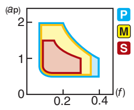
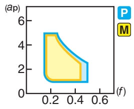
Grade Selection ☞ A2, A3
Chipbreaker Selection ☞ B10 on
Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation / ○ : Continuous Cutting 2nd Recommendation
◓ : General Cutting 1st Recommendation / ◌ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation / ✣ : Interrupted Cutting 2nd Recommendation

WN■■06T3●●

Dimensions (mm)				
	Cutting Edge Length L	6.5	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◌	◓	✖	○	◌	✣		◌			◌									✣		✣	◓			◓	✖	✣	●	◓							
M Stainless Steel				✣			✣	●	◓	✖	○	◌									✣		✣	◓	✣													
K Cast Iron			✣			✣							●	◓	✖	○	◌			✣		✣		◓						●								
N Non-Ferrous Metal																																						◓
S Exotic Alloy																			●	◓	✖	◌	✣	✣														
H Hardened Steel																		●																				

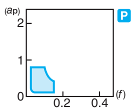
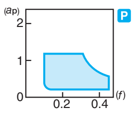
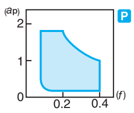
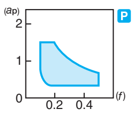
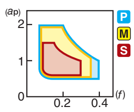
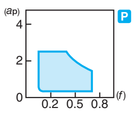
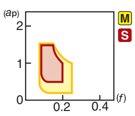
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
Finishing	SU  13°	 P M S	WNMG 06T304N-SU	0.4			●			●												—						—		—	—	—	—	—	—							—
			06T308N-SU	0.8			●			●												—						—		—	—	—	—	—	—							—
Medium Cutting	UG  4°	 P M	WNMG 06T304N-UG	0.4			●			●												—						—		—	—	—	—	—	—							—
			06T308N-UG	0.8			●			●												—						—		—	—	—	—	—	—							—

WN■■0604●●

Dimensions (mm)				
	Cutting Edge Length L	6.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Applicable External Holders ☞ C41 Applicable Internal Holders ☞ E26, E27

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◌	◓	✖	○	◌	✣		◌			◌									✣		✣	◓			◓	✖	✣	●	◓							
M Stainless Steel				✣			✣	●	◓	✖	○	◌									✣		✣	◓	✣													
K Cast Iron			✣			✣							●	◓	✖	○	◌			✣		✣		◓						●								
N Non-Ferrous Metal																																						◓
S Exotic Alloy																			●	◓	✖	◌	✣	✣														
H Hardened Steel																		●																				

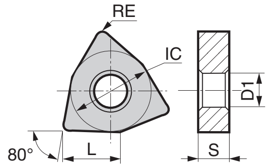
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
Fine Cutting	FB  27°	 P	WNMG 060404N-FB	0.4	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲		●	—	—	—	—	—	—	
			060408N-FB	0.8	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲		●	—	—	—	—	—	—	
Fine Cutting	FE  20°	 P	WNMG 060404N-FE	0.4	●	○	●	●	●		●		●	●								—						—		—	●	●	▲		●							
			060408N-FE	0.8	●	○	●	●	●		●		●	●								—						—		—	●	●	▲		●							
Finishing	LU  10°	 P	WNMG 060404N-LU	0.4	●	○	●	●	●	●	●											—						—		—	●	●										
			060408N-LU	0.8	●	○	●	●	●	●	●											—						—		—	●	●										
			060412N-LU	1.2	●	○	●	●	●	●	●											—						—		—	●											
Finishing	LUW  10° →B135 Wiper	 P	WNMG 060404N-LUW	0.4	●	○	●		●	●			●			●						—						—		—	●	●			●							
			060408N-LUW	0.8	●	○	●		●	●			●			●						—						—		—	●	●			●							
Finishing	SU  13°	 P M S	WNMG 060404N-SU	0.4	●	○	●	●	●	●	●	●	●	●								—						—		—	●	●										—
			060408N-SU	0.8	●	○	●	●	●	●	●	●	●	●								—						—		—	●	●										—
			060412N-SU	1.2	●	○	●	●	●	●	●	●	●	●								—						—		—	●											
Finishing	SEW  5° →B135 Wiper	 P	WNMG 060404N-SEW	0.4	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			060408N-SEW	0.8	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Finishing	EF  20°	 M S	WNMG 060404N-EF	0.4	●	○	●	●				●	●	●								—	○	●	●		●	—		—	—	—	—	—	—							—
			060408N-EF	0.8	●	○	●	●				●	●	●								—	○	●	●		●	—		—	—	—	—	—	—							—

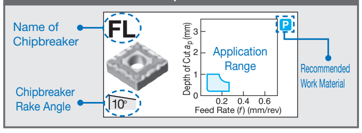
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Insert
B
Neg.
Pos.
C
D
R
S
T
V
W
Ceramics Solid CBN

Insert
B
Neg.
Pos.
C
D
R
S
T
V
W
Ceramics Solid CBN

WN Trigon Type Neg. With Hole





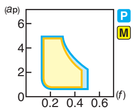
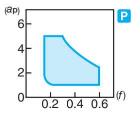
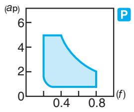
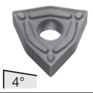
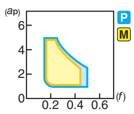
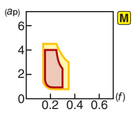
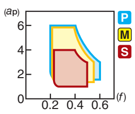
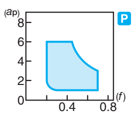
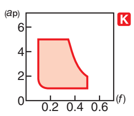
● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
◐ : General Cutting 1st Recommendation ◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✧ : Interrupted Cutting 2nd Recommendation

WN■■0604●●

Dimensions (mm)				
	Cutting Edge Length L	6.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

Applicable External Holders ☞ C41 Applicable Internal Holders ☞ E26, E27

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
P Steel	●	◔	◐	✖	○	◔	✧		◔			◔									✧		✧	◐			◐	✖	✧	●	◐							
M Stainless Steel				✧			✧	●	◐	✖	○	◔									✧		✧	◐	✧													
K Cast Iron			✧			✧							●	◐	✖	○	◔			✧		✧		◐						●								
N Non-Ferrous Metal																																						◐
S Exotic Alloy																			●	◐	✖	◔	✧	✧														
H Hardened Steel																		●																				

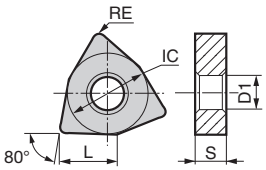
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	GU  7°	 P M	WNMG 060404N-GU	0.4	●	○	●	●	●	●	●	●	●	●			●	●				—						—		—	●	●										
			060408N-GU	0.8	●	○	●	●	●	●	●	●	●	●			●	●				—						—		—	●	●										
			060412N-GU	1.2	●	○	●	●	●	●	●	●	●	●			●	●				—						—		—	●											
	GE  3°	 P	WNMG 060408N-GE	0.8	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			060412N-GE	1.2	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
	GUW  0° →B135 Wiper	 P	WNMG 060408N-GUW	0.8	●	○	●	●	●	●	●											—						—		—	—	—	—	—	—							—
	UG  4°	 P M	WNMG 060404N-UG	0.4			●			●												—						—		—	—	—	—	—	—							—
			060408N-UG	0.8			●			●												—						—		—	—	—	—	—	—							—
	EG  0°	 M	WNMG 060408N-EG	0.8	●	○	●	●				●	●	●								—	○	●	●		●	—		—	—	—	—	—	—							—
			060412N-EG	1.2	●	○	●	●				●	●	●								—	○	●	●		●	—		—	—	—	—	—	—							—
Medium to Roughing	MU  4°	 P M S	WNMG 060408N-MU	0.8			●			●												—						—		—	—	—	—	—	—							—
			060412N-MU	1.2			●			●												—						—		—	—	—	—	—	—							—
	ME  4°	 P	WNMG 060408N-ME	0.8	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			060412N-ME	1.2	●	○	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
	GZ  0°	 K	WNMG 060408N-GZ	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			060412N-GZ	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Trigon Type Negative Inserts

Indexable Insert

WN Trigon Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

WN■■0804●●

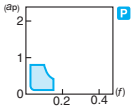
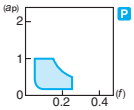
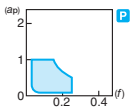
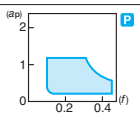
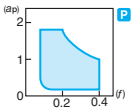
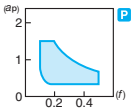
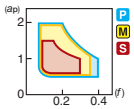
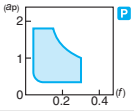
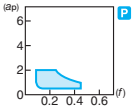
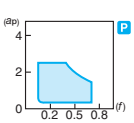
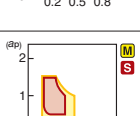
Dimensions (mm)	Cutting Edge Length L	8.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application

		Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide					
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✪		◔		◔	◔															●	✖	✪	●	●							
M	Stainless Steel			✪				✪	●	●	✖	○	◔									✪		✪	●	✪													
K	Cast Iron			✪			✪		●	●	✖	○	◔	●	●	✖	○	◔				✪		✪		●						●							
N	Non-Ferrous Metal																																						●
S	Exotic Alloy																		●	●	✖	◔	✪	✪	✪														
H	Hardened Steel												●																										

SUMIBORON (CBN) Inserts ☞ L105, L106

Applicable External Holders ☞ C40, C41 Applicable Internal Holders ☞ E26, E27

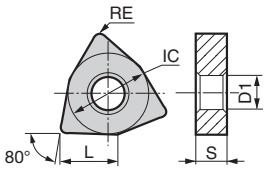
	Shape	Application Range	Cat. No.	Corner Radius RE
Fine Cutting	**FB** 27°		WNMG 080402N-FB	0.2
			080404N-FB	0.4
			080408N-FB	0.8
	FA 20°		WNMG 080402N-FA	0.2
			080404N-FA	0.4
			080408N-FA	0.8
	FL 10°		WNMG 080404N-FL	0.4
			080408N-FL	0.8
	FE 20°		WNMG 080402N-FE	0.2
			080404N-FE	0.4
			080408N-FE	0.8
			080412N-FE	1.2
Finishing	**LU** 10°		WNMG 080404N-LU	0.4
			080408N-LU	0.8
			080412N-LU	1.2
	LUW →B135 10° Wiper		WNMG 080404N-LUW	0.4
			080408N-LUW	0.8
			080412N-LUW	1.2
	SU 13°		WNMG 080404N-SU	0.4
			080408N-SU	0.8
			080412N-SU	1.2
	SU 13°		WNGG 080404N-SU	0.4
	SE 5°		WNMG 080404N-SE	0.4
			080408N-SE	0.8
			080412N-SE	1.2
	SEW →B135 5° Wiper		WNMG 080404N-SEW	0.4
			080408N-SEW	0.8
			080412N-SEW	1.2
	EF 20°		WNMG 080404N-EF	0.4
			080408N-EF	0.8

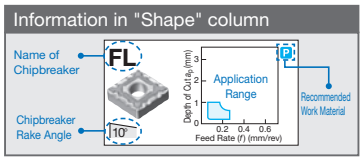
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Trigon Type Negative Inserts

Indexable Insert

WN Trigon Type Neg. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

WN■■0804●●

Dimensions (mm)	Cutting Edge Length L	8.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L105, L106

Applicable External Holders ☞C40, C41 Applicable Internal Holders ☞E26, E27

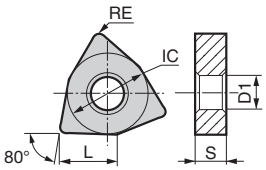
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	SX		WNMG 080404N-SX	0.4	●	○	●	●		●	●																			●	●	▲		●							
			080408N-SX	0.8	●	○	●	●	●	●	●																			●	●	▲		●							
			080412N-SX	1.2	●	○	●	●	●	●	●																															
	EX		WNMG 080404N-EX	0.4								●	●	●	▲	●							○	●	●	●	●		●													
			080408N-EX	0.8								●	●	●	▲	●							○	●	●	●	●		●													
			080412N-EX	1.2								●	●	●	▲	●							○	●	●	●	●		●													
	UP		WNMG 080408N-UP	0.8						●	●	●	●	●		●							○	●	●	●	●		●													
			080412N-UP	1.2						●	●	●	●	●		●							○	●	●	●	●		●													
	GU		WNMG 080404N-GU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●			●	●			●						
			080408N-GU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●			●	●			●						
			080412N-GU	1.2	●	○	●	●	●	●	●	●	●	●	▲	●	●	●					○	●	●		●		●													
	GE		WNMG 080404N-GE	0.4	●	○	●	●	●	●	●																														
			080408N-GE	0.8	●	○	●	●	●	●	●																														
			080412N-GE	1.2	●	○	●	●	●	●	●																														
			080416N-GE	1.6	●	○	●	●	●	●	●																														
	GUW	→B135 Wiper	WNMG 080408N-GUW	0.8	●	○	●		●	●																														
			080412N-GUW	1.2	●	○	●		●	●																														
Medium Cutting	UX		WNMG 080404N-UX	0.4	●	○	●	●	●	●	●																														
			080408N-UX	0.8	●	○	●	●	●	●	●																														
			080412N-UX	1.2	●	○	●	●	●	●	●																														
	UG		WNMG 080404N-UG	0.4			●	●		●	●																														
			080408N-UG	0.8			●	●		●	●																														
			080412N-UG	1.2			●	●		●	●																														
	EG		WNMG 080404N-EG	0.4	●	○	●	●				●	●	●									○	●	●														●	●	
			080408N-EG	0.8	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
			080412N-EG	1.2	●	○	●	●				●	●	●		●							○	●	●	●	●												●	●	
			WNMA 080408	0.8													●	●	●	▲	▲																			
			080412	1.2													●	●	●	▲	▲																			
			080416	1.6													●	●	●	▲	▲																			
Medium to Roughing	MU		WNMG 080408N-MU	0.8	●	○	●	●	●	●	●		●			●							○	●	●	●	●		●													
			080412N-MU	1.2	●	○	●	●	●	●	●		●			●							○	●	●	●	●		●													
			080416N-MU	1.6	●	○	●		●	●																														
	EM		WNMG 080408N-EM	0.8	●	○	●	●				●	●	●									○	●	●																
			080412N-EM	1.2	●	○	●	●				●	●	●									○	●	●																

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Trigon Type Negative Inserts

Indexable Insert

WN Trigon Type Neg. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

WN■■0804●●

Dimensions (mm)	Cutting Edge Length L	8.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L105, L106

Applicable External Holders ☞ C40, C41 Applicable Internal Holders ☞ E26, E27

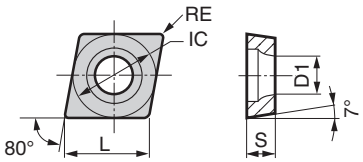
					Coated Carbide																					Coated Cermet			Cermet	Cemented Carbide				
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**ME**	P	WNMG 080408N-ME	0.8	●	○	●	●	●	●	●						●	●																							
			080412N-ME	1.2	●	○	●	●	●	●	●						●	●																							
			080416N-ME	1.6	●	○	●	●	●	●	●						●	●																							
	MX	P	WNMG 080408N-MX	0.8			●	●		●	●																														
			080412N-MX	1.2			●	●		●	●																														
	UZ	K	WNMG 080404N-UZ	0.4			●			●							●	●	●	▲	▲		○	●	●	●	●														
			080408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●														
			080412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲		○	●	●	●	●														
	GZ	K	WNMG 080404N-GZ	0.4						●							●	●	●	▲	▲																				
			080408N-GZ	0.8						●							●	●	●	▲	▲																				
			080412N-GZ	1.2						●							●	●	●	▲	▲																				

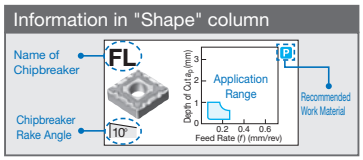
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type / 7° Pos. / With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

CC■■03X1●●

Dimensions (mm)	Cutting Edge Length L	3.55	Thickness S	1.4
	Inscribed Circle IC	3.5	Hole Dia. D1	1.9

Recommended Application

		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	○	●	✖	○	○	✖		○		○									✖				✖	✖	✖	●	●									
M	Stainless Steel				✖			✖	●	●	✖	○	○								✖				✖	✖	✖											
K	Cast Iron			✖			✖							●	●	✖	○	○			✖			✖	✖	●					●							
N	Non-Ferrous Metal																																				●
S	Exotic Alloy																		●	●	✖	○	✖	✖	✖													
H	Hardened Steel																		●																			

SUMIBORON (CBN) Inserts L39 | SUMIDIA BINDERLESS Inserts M28

Applicable Internal Holders E18, E20

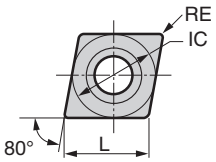
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FYS**		CCGT 03X1003R-FYS	0.03																				●	●		●													
			03X1003L-FYS	0.03																				●	●		●													
			03X101R-FYS	0.1																				●	●		●													
			03X101L-FYS	0.1																				●	●		●													
			03X102R-FYS	0.2																				●	●		●													
			03X102L-FYS	0.2																				●	●		●													
			03X104R-FYS	0.4																				●	●		●													
			03X104L-FYS	0.4																				●	●		●													
	FYS		CCET 03X1003R-FYS NEW	0.03																							●													
			03X1003L-FYS NEW	0.03																							●													
			03X101R-FYS NEW	0.1																							●													
			03X101L-FYS NEW	0.1																							●													
			03X102R-FYS NEW	0.2																							●													
			03X102L-FYS NEW	0.2																							●													
			03X104R-FYS NEW	0.4																							●													
			03X104L-FYS NEW	0.4																							●													
	FY		CCGT 03X101R-FY	0.1																				●	●		●			●			●	●						
			03X101L-FY	0.1																				●	●		●			●			●	●						
			03X102R-FY	0.2																				●	●		●			●			●	●						
			03X102L-FY	0.2																				●	●		●			●			●	●						
			03X104R-FY	0.4																				●	●		●			●			●	●						
			03X104L-FY	0.4																				●	●		●			●			●	●						
	FY		CCET 03X1003R-FY	0.03																							●		●					●	●						
			03X1003L-FY	0.03																							●	●	●					●	●						
			03X101R-FY	0.1																							●		●					●	●						
			03X101L-FY	0.1																							●	●	●					●	●						
			03X102R-FY	0.2																							●		●					●	●						
			03X102L-FY	0.2																							●	●	●					●	●						
			03X104R-FY	0.4																							●		●					●	●						
			03X104L-FY	0.4																							●	●	●					●	●						

*1: Photo shows left-handed.

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type / 7° Pos. / With Hole



Grade Selection ☞ A2

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

CC■■04X1●●

Dimensions (mm)	Cutting Edge Length L	4.37	Thickness S	1.8
	Inscribed Circle IC	4.3	Hole Dia. D1	2.3

Recommended Application

		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✲				◔										✲		✲	●			●	✖	✲	●	●								
M	Stainless Steel				✲				✲	●	●	✖	○	◔								✲		✲	✲	●	✲													
K	Cast Iron			✲			✲							●	●	✖	○	◔				✲		✲		●						●								
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	◔	✲	✲															
H	Hardened Steel																	●																					

SUMIBORON (CBN) Inserts ☞ L40 | SUMIDIA BINDERLESS Inserts ☞ M28

Applicable Internal Holders ☞ E18, E20

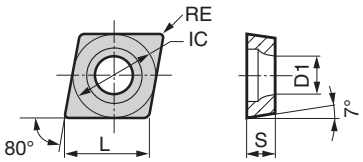
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FYS**		CCGT 04X1003R-FYS	0.03																			●	●			●													
			04X1003L-FYS	0.03																			●	●			●													
			04X101R-FYS	0.1																			●	●			●													
			04X101L-FYS	0.1																			●	●			●													
			04X102R-FYS	0.2																			●	●			●													
			04X102L-FYS	0.2																			●	●			●													
			04X104R-FYS	0.4																			●	●			●													
			04X104L-FYS	0.4																			●	●			●													
	FYS		CCET 04X1003R-FYS New	0.03																							●													
			04X1003L-FYS New	0.03																							●													
			04X101R-FYS New	0.1																							●													
			04X101L-FYS New	0.1																							●													
			04X102R-FYS New	0.2																							●													
			04X102L-FYS New	0.2																							●													
			04X104R-FYS New	0.4																							●													
			04X104L-FYS New	0.4																							●													
	FY		CCGT 04X101R-FY	0.1																			●	●			●			●			●	●						
			04X101L-FY	0.1																			●	●			●			●			●	●						
			04X102R-FY	0.2																			●	●			●			●			●	●						
			04X102L-FY	0.2																			●	●			●			●			●	●						
			04X104R-FY	0.4																			●	●			●			●			●	●						
			04X104L-FY	0.4																			●	●			●			●			●	●						
	FY		CCET 04X1003R-FY	0.03																							●		●				●	●						
			04X1003L-FY	0.03																							●		●				●	●						
			04X101R-FY	0.1																							●		●				●	●						
			04X101L-FY	0.1																							●		●				●	●						
			04X102R-FY	0.2																							●		●				●	●						
			04X102L-FY	0.2																							●		●				●	●						
			04X104R-FY	0.4																							●		●				●	●						
			04X104L-FY	0.4																							●		●				●	●						

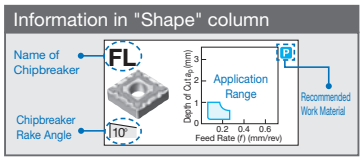
*1: Photo shows left-handed.

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type / 7° Pos. / With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CC■■0602●●

Dimensions (mm)	Cutting Edge Length L	6.4	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application
P Steel
M Stainless Steel
K Cast Iron
N Non-Ferrous Metal
S Exotic Alloy
H Hardened Steel

SUMIBORON (CBN) Inserts L41, L42 | SUMIDIA (PCD) Inserts M10 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C11, D13, D17, D22, D23 | Applicable Internal Holders E18 to E20

	Coated Carbide	Coated Cermet	Cermet	Cemented Carbide

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB** 20°		CCMT 060202N-FB	0.2																								●		●	●	▲	●	●							
			060204N-FB	0.4																								●		●	●	▲	●	●							
	LU 15°		CCMT 060202N-LU	0.2	●	○	●		●	●		●	●		●						—						—	●	—	●	●	▲	●	●							
			060204N-LU	0.4	●	○	●		●	●		●	●		●						—						—	●	—	●	●	▲	●	●							
	FP 10°		CCMT 060202N-FP	0.2																														●							
			060208N-FP	0.8																														●							
	FC 15°		CCGT 060201MN-FC	< 0.1																							●	●	●					●	●							
			060202MN-FC	< 0.2																							●	●	●					●	●							
			060204MN-FC	< 0.4																							●	●	●					●	●							
	FX 15°		CCGT 0602003R-FX	0.03																				●	●		●	●					●	●							
			0602003L-FX	0.03																				●	●		●	●					●	●							
			060201R-FX	0.1																				●	●		●	●			●		●	●							
			060201L-FX	0.1																				●	●		●	●			●		●	●							
			060202R-FX	0.2																				●	●		●	●			●		●	●							
			060202L-FX	0.2																				●	●		●	●			●		●	●							
			060204R-FX	0.4																				●	●		●	●						●							
			060204L-FX	0.4																				●	●		●	●			●			●							
	FX 15°		CCET 0602003R-FX	0.03																							●			●											
			0602003L-FX	0.03																							●			●											
			060201R-FX	0.1																							●			●											
			060201L-FX	0.1																							●			●											
			060202R-FX	0.2																							●			●											
			060202L-FX	0.2																							●			●											
			060204R-FX	0.4																							●			●											
			060204L-FX	0.4																							●			●											
	FY *1 15°		CCET 0602003R-FY	0.03																							●			●											
			0602003L-FY	0.03																							●			●											
			0602008R-FY	0.08																																					
			0602008L-FY	0.08																																					
			060201R-FY	0.1																							●			●											
			060201L-FY	0.1																							●			●											
			0602018R-FY	0.18																																					
			0602018L-FY	0.18																																					
			060202R-FY	0.2																							●			●											
			060202L-FY	0.2																							●			●											
			060204R-FY	0.4																							●			●											
			060204L-FY	0.4																							●			●											

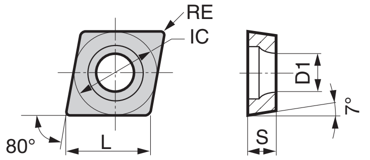
*1: Photo shows left-handed.
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

CC

80° Diamond Type
7° Pos.
With Hole



Grade Selection ☞ A2, A3
Chipbreaker Selection ☞ B10 on
Insert Grade Selection by Work Material ☞ A10 on

CC■■0602●●

Dimensions (mm)				
	Cutting Edge Length L	6.4	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

SUMIBORON (CBN) Inserts ☞ L41, L42
SUMIDIA (PCD) Inserts ☞ M10
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C11, D13, D17, D22, D23
Applicable Internal Holders ☞ E18 to E20

● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
◐ : General Cutting 1st Recommendation ◌ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✕ : Interrupted Cutting 2nd Recommendation

Application Range	Shape	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Recommended Application	P Steel			●	◌	◐	✖	○	◌	✕		◌			◌									✕		✕	◐			◐	✖	✕	●	◐							
Recommended Application	M Stainless Steel						✕			✕	●	◐	✖	○	◌									✕		✕	◐	✕													
Recommended Application	K Cast Iron					✕			✕							●	◐	✖	○	◌			✕		✕		◐						●								
Recommended Application	N Non-Ferrous Metal																																								◐
Recommended Application	S Exotic Alloy																					●	◐	✖	◌	✕	✕														
Recommended Application	H Hardened Steel																				●																				
				Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
Light Cutting	LB (15°)	CCMT 060202N-LB	0.2			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
Light Cutting	LB (15°)	060204N-LB	0.4			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
Light Cutting	LB (15°)	060208N-LB	0.8			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
Light Cutting	SU (8°)	CCMT 060202N-SU	0.2	●	○	●	●		●	●	●	●	●	▲	●						—	○	●	●			—	●	—	●	●	▲	●	●							
Light Cutting	SU (8°)	060204N-SU	0.4	●	○	●	●		●	●	●	●	●	▲	●						—	○	●	●			—	●	—	●	●	▲	●	●							
Light Cutting	SU (8°)	060208N-SU	0.8	●	○	●	●		●	●	●	●	●	▲	●						—	○	●	●		●	—	●	—	●	●		●	●							
Light Cutting	SC (6°)	CCMT 060204N-SC	0.4			●			●												—						—		—	—	—	—	—	—			●				—
Light Cutting	SC (6°)	CCGT 0602003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●	—	—	—	—	—	—	
Light Cutting	SC (6°)	CCGT 060201MN-SC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
Light Cutting	SC (6°)	060202MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
Light Cutting	SC (6°)	060204MN-SC	< 0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									●	●			●	—	—	—	—	—	—	
Light Cutting		CCMW 060204	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Light Cutting		CCGW 060200	0	—	—	—	—	—	—	—	—	—	—	—	—																										
Light Cutting		060201	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										
Light to Medium Cutting	GU (8°)	CCMT 060204N-GU New	0.4	●	○	●	●				●	●	●								—			●			—		—	●	●			●							
Light to Medium Cutting	GU (8°)	060208N-GU New	0.8	●	○	●	●				●	●	●								—			●			—		—	●	●			●							
For Aluminum	AG (20°)	CCGT 060202N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AG (20°)	060204N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AY (15°) *1	CCGT 060201R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AY (15°) *1	060201L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AY (15°) *1	060202R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AY (15°) *1	060202L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AY (15°) *1	060204R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
For Aluminum	AY (15°) *1	060204L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

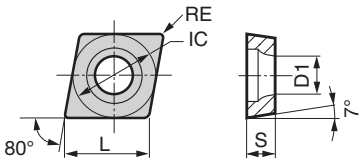
*1: Photo shows left-handed.
A "<" next to the corner radius RE indicates a negative tolerance.

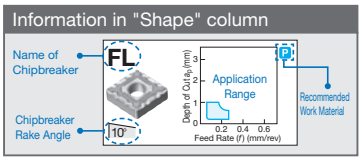
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type 7° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

CC■■0802●●

Dimensions (mm)				
	Cutting Edge Length L	8.0	Thickness S	2.38
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC		CCMT 080204N-SC	0.4																																				
	SC		CCGT 080201MN-SC	< 0.1																										●			●	●							
			080202MN-SC	< 0.2																										●			●	●							
			CCGW 080200	0																																				
			080201	0.1																																				

A "<" next to the corner radius RE indicates a negative tolerance.

CC■■0803●●

Dimensions (mm)				
	Cutting Edge Length L	8.0	Thickness S	3.18
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC		CCMT 080304N-SC	0.4			●			●																														

CC■■0903●●

Dimensions (mm)				
	Cutting Edge Length L	9.7	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

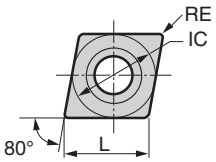
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC		CCMT 090308N-SC	0.8			●			●																											●				
	SC		CCGT 090301MN-SC	< 0.1																										●			●	●							
			090302MN-SC	< 0.2																										●			●	●							
			CCGW 090300	0																																				
			090301	0.1																																				

A "<" next to the corner radius RE indicates a negative tolerance.

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type / 7° Pos. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

CC■■09T3●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application

P	Steel	● ○ ● ✱ ○ ○ ✱ ○ ○ ✱ ○ ○ ✱ ✱ ✱ ● ● ✱ ✱ ✱
M	Stainless Steel	✱ ✱ ✱ ✱ ✱ ● ● ✱ ○ ○ ✱ ✱ ✱ ✱ ● ● ✱ ✱ ✱
K	Cast Iron	✱ ✱ ✱ ✱ ✱ ● ● ✱ ○ ○ ✱ ✱ ✱ ● ●
N	Non-Ferrous Metal	●
S	Exotic Alloy	● ● ✱ ○ ○ ✱ ✱ ✱
H	Hardened Steel	●

SUMIBORON (CBN) Inserts ☞ L43 on

SUMIDIA (PCD) Inserts ☞ M11

SUMIDIA BINDERLESS Inserts ☞ M28

Applicable External Holders ☞ C11, D13, D17, D22, D23

Applicable Internal Holders ☞ E12, E18 to E20

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																							Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**	(ap) 2 1 0 0.2 0.4 (f) P	CCMT 09T302N-FB	0.2																								●	●	▲	●	●							
	20°		09T304N-FB	0.4																								●	●	▲	●	●							
			09T308N-FB	0.8																								●	●	▲	●	●							
	LU	(ap) 2 1 0 0.2 0.4 (f) P	CCMT 09T302N-LU	0.2																																		
	15°		09T304N-LU	0.4	●	○	●		●	●			●	●		●												●	●	●	▲	●	●						
			09T308N-LU	0.8	●	○	●		●	●			●	●		●												●	●	●	▲	●	●						
	LUW	(ap) 2 1 0 0.2 0.4 (f) P	CCMT 09T304N-LUW	0.4	●	○	●		●	●						●													●	●	▲		●						
	10° →B135 Wiper		09T308N-LUW	0.8	●	○	●		●	●						●													●	●	▲		●						
	FP	(ap) 2 1 0 0.2 0.4 (f) P	CCMT 09T302N-FP	0.2																														●					
	10°		09T304N-FP	0.4																														●					
	FC	(ap) 2 1 0 0.2 0.4 (f) P	CCGT 09T301MN-FC	< 0.1																							●	●	●				●	●					
	15°		09T302MN-FC	< 0.2																							●	●	●				●	●					
			09T304MN-FC	< 0.4																							●	●	●				●	●					
	FX	(ap) 2 1 0 0.2 0.4 (f) P	CCGT 09T3003R-FX	0.03																			●	●			●	●					●	●					
	15°		09T3003L-FX	0.03																			●	●			●	●					●	●					
			09T301R-FX	0.1																			●	●			●	●		●			●	●					
			09T301L-FX	0.1																			●	●			●	●		●			●	●					
			09T302R-FX	0.2																			●	●			●	●		●			●	●					
			09T302L-FX	0.2																			●	●			●	●		●			●	●					
			09T304R-FX	0.4																			●	●			●	●											
			09T304L-FX	0.4																			●	●			●	●											
			09T308R-FX	0.8																			●	●			●	●											
			09T308L-FX	0.8																			●	●			●	●											
	FX	(ap) 2 1 0 0.2 0.4 (f) P	CCET 09T3003R-FX	0.03																							●		●										
	15°		09T3003L-FX	0.03																							●		●										
			09T301R-FX	0.1																							●		●										
			09T301L-FX	0.1																							●		●										
			09T302R-FX	0.2																							●		●										
			09T302L-FX	0.2																							●		●										
			09T304R-FX	0.4																							●		●										
			09T304L-FX	0.4																							●		●										

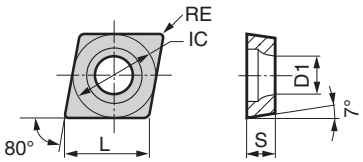
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type / 7° Pos. / With Hole



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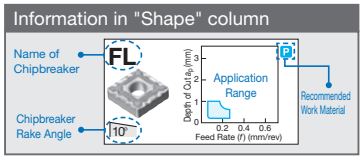
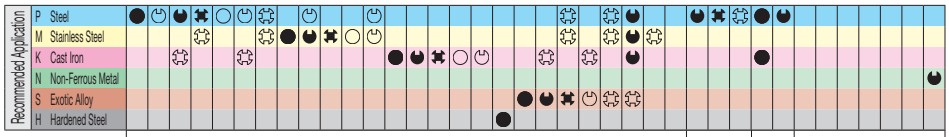


●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

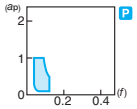
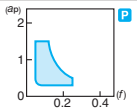
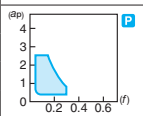
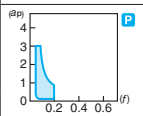
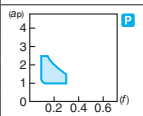
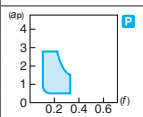
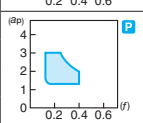
CC■■09T3●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4



SUMIBORON (CBN) Inserts L43 on | SUMIDIA (PCD) Inserts M11 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C11, D13, D17, D22, D23 | Applicable Internal Holders E12, E18 to E20

					Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FY** *1 15°		CCET 09T3003R-FY	0.03																							●		●												
			09T3003L-FY	0.03																							●		●												
			09T3008R-FY	0.08																																					
			09T3008L-FY	0.08																																					
			09T301R-FY	0.1																							●		●					●	●						
			09T301L-FY	0.1																							●		●					●	●						
			09T3018R-FY	0.18																																					
			09T3018L-FY	0.18																																					
			09T302R-FY	0.2																							●		●					●	●						
			09T302L-FY	0.2																							●		●					●	●						
			09T304R-FY	0.4																							●		●												
			09T304L-FY	0.4																							●		●												
Light Cutting	**LB** 15°		CCMT 09T302N-LB	0.2			●	●		●	●	●	●	●																	●	●	▲		●						
			09T304N-LB	0.4			●	●		●	●	●	●	●																	●	●	▲		●						
			09T308N-LB	0.8			●	●		●	●	●	●	●																	●	●	▲		●						
	SU 8°		CCMT 09T302N-SU	0.2	●	○	●	●		●	●	●	●	●	▲	●						○	●	●				●		●	●	▲	●	●						
			09T304N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●						○	●	●				●		●	●	▲	●	●						
			09T308N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●						○	●	●				●		●	●		●	●						
	SI 15°		CCGT 09T301MN-SI	< 0.1											▲	●							●	●	●	●	●	●		●	●			●	●						
			09T302MN-SI	< 0.2											▲	●							●	●	●	●	●	●		●	●			●	●						
			09T304MN-SI	< 0.4											▲	●							●	●	●	●	●	●		●	●			●	●						
	SC 6°		CCGT 09T3003N-SC	0.03																							●		●					●	●						
			CCGT 09T301MN-SC	< 0.1																							●		●		●	●		●	●						
			09T302MN-SC	< 0.2																							●		●		●	●		●	●						
Light Cutting			CCMW 09T304	0.4													●	●	●	▲	▲																			
			09T308	0.8													●	●	●	▲	▲																			
			CCGW 09T300	0																																					
			09T301	0.1																																					
Light to Medium Cutting	**GU** 0°		CCMT 09T304N-GU New	0.4	●	○	●	●				●	●	●																	●	●			●						
			09T308N-GU New	0.8	●	○	●	●				●	●	●																	●	●			●						
	MU 0°		CCMT 09T304N-MU	0.4	●	○	●		●	●		●	●			●	●	●	●	▲	▲																			
			09T308N-MU	0.8	●	○	●	●	●	●	●	●	●			●	●	●	●	▲	▲																			

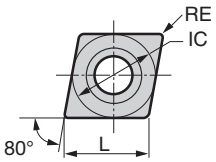
*1: Photo shows left-handed.
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CC 80° Diamond Type / 7° Pos. / With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation ○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✖ : Interrupted Cutting 2nd Recommendation

CC■■09T3●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L43 on | SUMIDIA (PCD) Inserts M11 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C11, D13, D17, D22, D23 | Applicable Internal Holders E12, E18 to E20

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet		Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	**AG** 20°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	CCGT 09T302N-AG	0.2																																				●
			CCGT 09T304N-AG	0.4																																				●
			CCGT 09T308N-AG	0.8																																				●
	AY *1 15°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	CCGT 09T301R-AY	0.1																																				●
			CCGT 09T301L-AY	0.1																																				●
			CCGT 09T302R-AY	0.2																																				●
			CCGT 09T302L-AY	0.2																																				●
			CCGT 09T304R-AY	0.4																																				●
			CCGT 09T304L-AY	0.4																																				●

*1: Photo shows left-handed.

CC■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.9	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.5

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

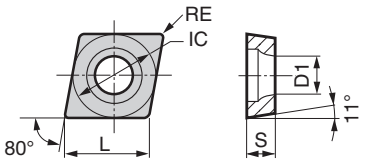
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet		Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FP** 10°	(ap) 2 1 0 0.2 0.4 (f) P	CCMT 120404N-FP	0.4																													●						
			CCMT 120408N-FP	0.8																													●						
Light Cutting	**SU** 8°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	CCMT 120404N-SU	0.4	●	○	●	●	●	●	●											○	●	●																
			CCMT 120408N-SU	0.8	●	○	●	●	●	●	●											○	●	●																
	SC 6°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	CCMT 120408N-SC	0.8			●			●																											●			
Light to Medium Cutting	**GU** 8°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	CCMT 120408N-GU New	0.8	●	○	●	●																																

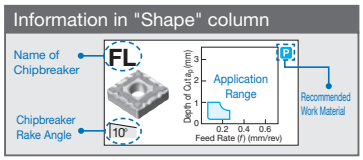
○ mark: Stock or planned stock (please confirm stock availability)

80° Diamond Type Positive Inserts

Indexable Insert

CP 80° Diamond Type 11° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

CP■■0602●●

Dimensions (mm)	Cutting Edge Length L	6.4	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																									Coated Cermet				Cermet	Cemented Carbide						
Finishing	FX 15°	(ap) 2 1 0 0.2 0.4 (f) P	CPGT 060204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●							
	US 10°	(ap) 2 1 0 0.2 0.4 (f) P	CPMT 060204N-US	0.4												●						—						—	—	—	—	—	—	—			●	●			—

CP■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.0	Thickness S	2.38
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L47 SUMIDIA (PCD) Inserts ☞M11
Applicable Internal Holders ☞E21 to E22

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																									Coated Cermet				Cermet	Cemented Carbide						
Finishing	FB 20°	(ap) 2 1 0 0.2 0.4 (f) P	CPMT 080204N-FB	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	—
	LU 15°	(ap) 2 1 0 0.2 0.4 (f) P	CPMT 080204N-LU	0.4	●	○	●		●													—						—	—	●	●	▲	●	●							
Finishing to Light Cutting	SD 0°	(ap) 2 1 0 0.2 0.4 (f) P	CPGT 080202N-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●							●	●							
			080204N-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●						●	●	▲	●	●			●			
			080208N-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●							●	●		●	●					
Light Cutting	LB 15°	(ap) 2 1 0 0.2 0.4 (f) P	CPMT 080204N-LB	0.4			●	●		●	●	●	●	●								—						—	—	●	●	▲		●							
	SU 8°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	CPMT 080204N-SU	0.4	●	○	●	●	●	●	●				▲	●						—	○	●	●				—		●	●		●	●							
			080208N-SU	0.8	●	○	●	●	●	●	●				▲	●						—	○	●	●				—		●	●	▲	●	●							
	SS 5° *1	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	CPMT 080208N-SS	0.8												●						—						—	—	—	—	—	—	—		●					—
			CPMW 080204	0.4													●	●	●	▲	▲	—						—	—	—	—	—	—	—							—
			080208	0.8													●	●	●	▲	▲	—						—	—	—	—	—	—	—							—
Light to Medium Cutting	MU 0°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	CPMT 080204N-MU	0.4	●	○	●		●	●						●	●	●	●	▲	▲	—						—	—	—	—	—	—	—							—
			080208N-MU	0.8	●	○	●		●	●						●	●	●	●	▲	▲	—						—	—	—	—	—	—	—							—

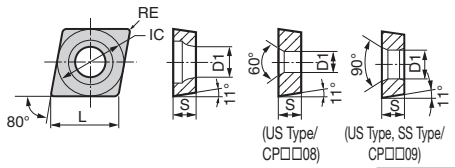
*1: Hole Dia. D1=4.8.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CP 80° Diamond Type 11° Pos. With Hole



Grade Selection A2, A3
Chipbreaker Selection B10 on
Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

CP■■0803●●

Dimensions (mm)	Cutting Edge Length L	8.0	Thickness S	3.18
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US		CPMT 080308N-US	0.8												●																						●	●				

CP■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

SUMIBORON (CBN) Inserts L48 SUMIDIA (PCD) Inserts M11
Applicable Internal Holders E12, E21, E22

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB		CPMT 090304N-FB	0.4																								●		●	●	▲	●	●							
			090308N-FB	0.8																								●		●	●	▲	●	●							
	LU		CPMT 090304N-LU	0.4	●	○	●		●	●			●	●		●														●	●	▲	●	●							
			090308N-LU	0.8	●	○	●		●	●			●	●		●														●	●	▲	●	●							
	LUW		CPMT 090304N-LUW	0.4	●	○	●		●	●						●														●	●	▲		●							
			090308N-LUW	0.8	●	○	●		●	●						●														●	●	▲		●							
Finishing to Light Cutting	SD		CPGT 090302N-SD	0.2																			●	●	●									●	●						
			090304N-SD	0.4																			●	●	●						●	●	▲	●	●			●			
			090308N-SD	0.8																			●	●	●						●	●		●	●						
Light Cutting	LB		CPMT 090304N-LB	0.4			●	●		●	●	●	●	●																●	●	▲		●						
			090308N-LB	0.8			●	●		●	●	●	●	●																●	●	▲		●						
	SU		CPMT 090304N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●						●	●	▲	●	●						
			090308N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●						●	●	▲	●	●						
	SS		CPMH 090308N-SS	0.8												●																						●				
	US		CPMH 090304N-US	0.4																																		●				
			090308N-US	0.8												●																						●				

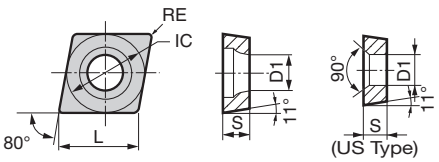
*1: Hole Dia. D1=4.8.

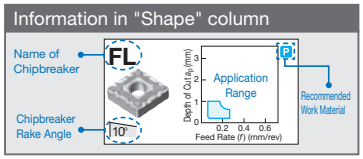
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CP 80° Diamond Type 11° Pos. With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

CP■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L48
SUMIDIA (PCD) Inserts ☞M11
Applicable Internal Holders ☞E12, E21, E22

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting			CPMW 090304	0.4													●	●	●	▲	▲	—					—		—											
			090308	0.8													●	●	●	▲	▲	—					—		—											
Light to wvvting	GU		CPMT 090304N-GU New	0.4	●	○	●	●				●	●	●			●	●	●	▲	▲	—					—		—	—	●	●		●						
			090308N-GU New	0.8	●	○	●	●				●	●	●			●	●	●	▲	▲	—					—		—	—	●	●		●						
	MU		CPMT 090304N-MU	0.4	●	○	●		●	●		●	●				●	●	●	▲	▲	—					—		—	—	—	—	—	—						—
			090308N-MU	0.8	●	○	●		●	●		●	●				●	●	●	▲	▲	—					—		—	—	—	—	—	—						—

CP■■09T3●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		CPGT 09T308L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	US		CPMT 09T308N-US	0.8												●						—					—		—	—	—	—	—	—			●	●			—

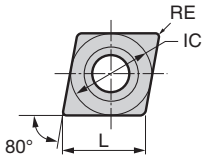
*1: Photo shows left-handed.

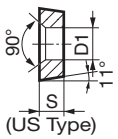
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

80° Diamond Type Positive Inserts

Indexable Insert

CP 80° Diamond Type 11° Pos. With Hole





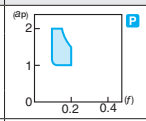
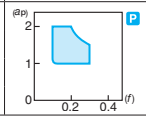
Grade Selection A2, A3
Chipbreaker Selection B10 on
Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation
○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation
○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation
✖: Interrupted Cutting 2nd Recommendation

CP■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.9	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.5

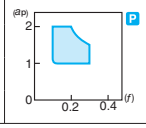
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	SD		CPGT 120402N-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—
			CPGT 120404N-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	●	—	—	●	●	—	—	●	—	—	—	—
			CPGT 120408N-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—
	US		CPMH 120408N-US	0.8	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—

CP■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.1	Thickness S	4.76
	Inscribed Circle IC	15.875	Hole Dia. D1	6.5

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

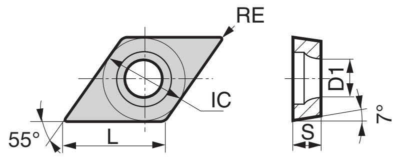
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US		CPMH 160408N-US	0.8	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—

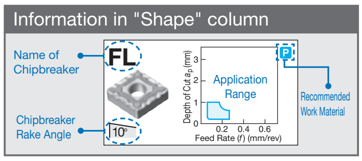
55° Diamond Type Positive Inserts

Insert
B
Neg.
Pos.
C
D
R
S
T
V
W
Ceramics Solid CBN

DC

55° Diamond Type
7° Pos.
With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◕ : General Cutting 1st Recommendation
◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✧ : Interrupted Cutting 2nd Recommendation

DC■■0702●●

Dimensions (mm)				
	Cutting Edge Length L	7.7	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

SUMIBORON (CBN) Inserts ☞ L56, L57
SUMIDIA (PCD) Inserts ☞ M12
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C17, D14, D18, D19, D24, D25
Applicable Internal Holders ☞ E16, E28 to E32

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
P Steel	●	◔	◕	✖	○	◔	✧		◔			◔									✧		✧	◕			◕	✖	✧	●	◕							
M Stainless Steel				✧			✧	●	◕	✖	○	◔									✧		✧	◕	✧													
K Cast Iron			✧			✧							●	◕	✖	○	◔			✧		✧		◕						●								
N Non-Ferrous Metal																																						◕
S Exotic Alloy																			●	◕	✖	◔	✧	✧														
H Hardened Steel																		●																				

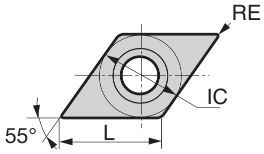
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 20°	P	DCMT 070202N-FB	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
			070204N-FB	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
			070208N-FB	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
	LU 15°	P	DCMT 070202N-LU	0.2	●	○	●		●	●			●	●		●						—						—	●	—	●	●	▲	●	●							
			070204N-LU	0.4	●	○	●		●	●			●	●		●						—						—	●	—	●	●	▲	●	●							
	FP 10°	P	DCMT 070202N-FP	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—					●	—	—	—	—	—	—	
			070204N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—					●	—	—	—	—	—	—	
	FC 15°	P	DCGT 070201MN-FC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●		●	●	●	●				●	●	—	—	—	—	—	—	
			070202MN-FC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●		●	●	●	●				●	●	—	—	—	—	—	—	
			070204MN-FC	< 0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●		●	●	●	●				●	●	—	—	—	—	—	—	
	FX 15°	P	DCGT 0702003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●	●							
			0702003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●	●							
			070201R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●		●			●	●							
			070201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●		●			●	●							
			070202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●		●			●	●							
			070202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●		●			●	●							
			070204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●	—	—	—	—	—	—	
			070204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●	—	—	—	—	—	—	
	FX 15°	P	DCET 0702003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702008R-FX	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702008L-FX	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070201R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702018R-FX	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702018L-FX	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
	FYS 15°	P	DCGT 0702003R-FYS	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			0702003L-FYS	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			070201R-FYS	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			070201L-FYS	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			070202R-FYS	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			070202L-FYS	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			070204R-FYS	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
			070204L-FYS	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●														
	FYS 15°	P	DCET 0702003R-FYS New	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			0702003L-FYS New	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			070201R-FYS New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			070201L-FYS New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			070202R-FYS New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			070202L-FYS New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			070204R-FYS New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														
			070204L-FYS New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●														

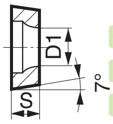
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Positive Inserts

DC — 55° Diamond Type / 7° Pos. / With Hole





Grade Selection ☞ A2, A3
Chipbreaker Selection ☞ B10 on
Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
◒ : General Cutting 1st Recommendation ◡ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✣ : Interrupted Cutting 2nd Recommendation

DC■■0702●●

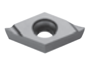
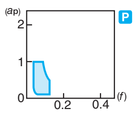
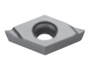
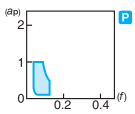
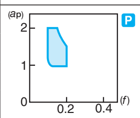
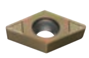
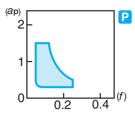
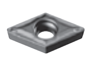
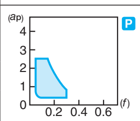
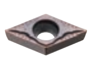
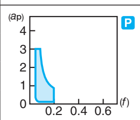
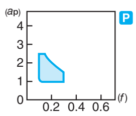
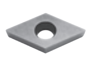
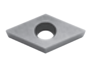
Dimensions (mm)				
Cutting Edge Length L	7.7		Thickness S	2.38
Inscribed Circle IC	6.35		Hole Dia. D1	2.8

SUMIBORON (CBN) Inserts ☞ L56, L57 SUMIDIA (PCD) Inserts ☞ M12 SUMIDIA BINDERLESS Inserts ☞ M28

Applicable External Holders ☞ C17, D14, D18, D19, D24, D25 Applicable Internal Holders ☞ E16, E28 to E32

Recommended Application

Work Material	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◡	◒	✖	○	◡	✣		◡			◡									✣		✣	◒			◒	✖	✣	●	◒							
M Stainless Steel				✣			✣	●	◒	✖	○	◡									✣		✣	◒	✣													
K Cast Iron			✣			✣							●	◒	✖	○	◡			✣		✣		◒						●								
N Non-Ferrous Metal																																						◒
S Exotic Alloy																			●	◒	✖	◡	✣	✣														
H Hardened Steel																		●																				

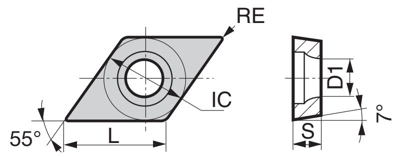
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
Finishing	FY  15°		DCGT 0702003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●													
			0702003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●													
			070201R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●								
			070201L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●								
			070202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●								
			070202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●								
			070204R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●								
			070204L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●	●	●					●								
Finishing	FY  15°		DCET 0702003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702008R-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702008L-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070201R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070201L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702018R-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			0702018L-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			070202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			070204R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			070204L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
Finishing to Light Cutting	SD  0°		DCGT 070202R-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
			070202L-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
			070204R-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
			070204L-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
Light Cutting	LB  15°		DCMT 070202N-LB	0.2			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			070204N-LB	0.4			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			070208N-LB	0.8			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
Light Cutting	SU  8°		DCMT 070202N-SU	0.2	●	○	●	●		●	●	●	●	●	▲	●						—	○	●	●			—	●	—	●	●	▲	●	●							
			070204N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●						—	○	●	●			—	●	—	●	●	▲	●	●							
			070208N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●						—	○	●	●			—		—	●	●	▲	●	●							
Light Cutting	SI  15°		DCGT 070201MN-SI	< 0.1	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●		●	●							
			070202MN-SI	< 0.2	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●		●	●							
			070204MN-SI	< 0.4	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●		●	●							
Light Cutting	SC  6°		DCGT 0702003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●							
			DCGT 070201MN-SC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
			070202MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
			070204MN-SC	< 0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—								●	●	●		●	●	—	—	—	—	—	—	
Light Cutting			DCMW 070204	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			070208	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Light Cutting			DCGW 070200	0	—	—	—	—	—	—	—	—	—	—	—	—																										
			070201	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										
			070202	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●																				
			070204	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●																				
			070208	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●																				

A "<" next to the corner radius RE indicates a negative tolerance.

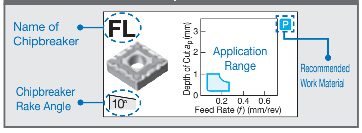
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Positive Inserts

DC 55° Diamond Type 7°Pos. With Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◐: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✛: Interrupted Cutting 2nd Recommendation

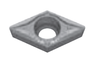
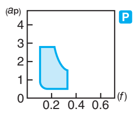
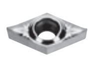
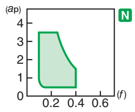
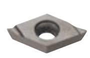
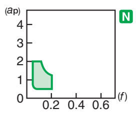
DC■■0702●●

Dimensions (mm)				
	Cutting Edge Length L	7.7	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

SUMIBORON (CBN) Inserts L56, L57
SUMIDIA (PCD) Inserts M12
SUMIDIA BINDERLESS Inserts M28
Applicable External Holders C17, D14, D18, D19, D24, D25
Applicable Internal Holders E16, E28 to E32

Recommended Application

Work Material	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔	◐	✖	○	◔	✛		◔			◔									✛		✛	◐			◐	✖	✛	●	◐							
M Stainless Steel				✛			✛	●	◐	✖	○	◔									✛		✛	◐	✛													
K Cast Iron			✛			✛							●	◐	✖	○	◔			✛		✛		◐						●								
N Non-Ferrous Metal																																						◐
S Exotic Alloy																			●	◐	✖	◔	✛	✛														
H Hardened Steel																		●																				

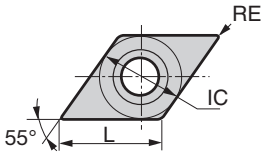
				Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
Shape		Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	GU  8°		DCMT 070204N-GU New	0.4	●	○	●	●				●	●	●								—						—		—	●	●			●							
			070208N-GU New	0.8	●	○	●	●				●	●	●								—						—		—	●	●			●							
For Aluminum	AG  20°		DCGT 070202N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			070204N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AY  15°		DCGT 070201R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			070201L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			070202R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			070202L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			070204R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			070204L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

○ mark: Stock or planned stock (please confirm stock availability)

55° Diamond Type Positive Inserts

Indexable Insert

DC 55° Diamond Type / 7° Pos. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

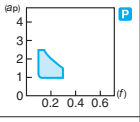
Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DC■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.7	Thickness S	2.38
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

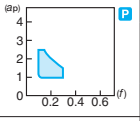
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC		DCGT 090201MN-SC	< 0.1																												●	●							
			090202MN-SC	< 0.2																												●	●							
			DCGW 090200	0																																				
			090201	0.1																																				

A "<" next to the corner radius RE indicates a negative tolerance.

DC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.6	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

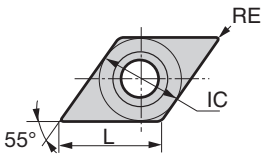
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC		DCGT 110301MN-SC	< 0.1																												●	●							
			110302MN-SC	< 0.2																												●	●							
			DCGW 110300	0																																				
			110301	0.1																																				

A "<" next to the corner radius RE indicates a negative tolerance.

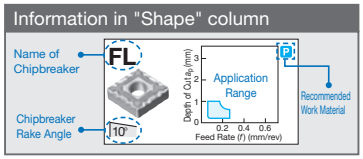
55° Diamond Type Positive Inserts

Indexable Insert

DC 55° Diamond Type / 7° Pos. / With Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DC■■11T3●●

Dimensions (mm)	Cutting Edge Length L	11.6	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application
- P Steel
- M Stainless Steel
- K Cast Iron
- N Non-Ferrous Metal
- S Exotic Alloy
- H Hardened Steel

SUMIBORON (CBN) Inserts L58 on | SUMIDIA (PCD) Inserts M13 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C17, D14, D18, D19, D24, D25 | Applicable Internal Holders E13, E28 to E32

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		DCMT 11T302N-FB	0.2																								●	—	●	●	▲	●	●	—	—	—	—	—
			11T304N-FB	0.4																								●	—	●	●	▲	●	●	—	—	—	—	—
			11T308N-FB	0.8																								●	—	●	●	▲	●	●	—	—	—	—	—
	LU		DCMT 11T302N-LU	0.2	●	○	●			●				●							—							●	—	●	●	▲	●	●					
			11T304N-LU	0.4	●	○	●		●	●			●	●		●					—							●	—	●	●	▲	●	●					
			11T308N-LU	0.8	●	○	●		●	●			●	●		●					—							●	—	●	●	▲	●	●					
	FP		DCMT 11T308N-FP	0.8																														●	—					
	FC		DCGT 11T301MN-FC	< 0.1																			●	●		●	●	●	●					●	●					
			11T302MN-FC	< 0.2																			●	●		●	●	●	●					●	●					
			11T304MN-FC	< 0.4																			●	●		●	●	●	●					●	●					
	FX		DCGT 11T3003R-FX	0.03																			●	●		●	●	●					●	●					
			11T3003L-FX	0.03																			●	●		●	●	●					●	●					
			11T301R-FX	0.1																			●	●		●	●	●					●	●					
			11T301L-FX	0.1																			●	●		●	●	●					●	●					
			11T302R-FX	0.2																			●	●		●	●	●			●		●	●					
			11T302L-FX	0.2																			●	●		●	●	●			●		●	●					
			11T304R-FX	0.4																			●	●			●							●	●					
			11T304L-FX	0.4																			●	●			●							●	●					
	FX		DCET 11T3003R-FX	0.03																							●		●											
			11T3003L-FX	0.03																							●		●											
			11T3008R-FX	0.08																							●		●											
			11T3008L-FX	0.08																							●		●											
			11T301R-FX	0.1																							●		●											
			11T301L-FX	0.1																							●		●											
			11T3018R-FX	0.18																							●		●											
			11T3018L-FX	0.18																							●		●											
			11T304R-FX	0.4																							●		●											
			11T304L-FX	0.4																							●		●											
	FYS		DCGT 11T3003R-FYS	0.03																			●	●			●												
			11T3003L-FYS	0.03																			●	●			●												
			11T301R-FYS	0.1																			●	●			●												
			11T301L-FYS	0.1																			●	●			●												
			11T302R-FYS	0.2																			●	●			●												
			11T302L-FYS	0.2																			●	●			●												
			11T304R-FYS	0.4																			●	●			●												
			11T304L-FYS	0.4																			●	●			●												
	FYS		DCET 11T3003R-FYS NEW	0.03																							●												
			11T3003L-FYS NEW	0.03																							●												
			11T301R-FYS NEW	0.1																							●												
			11T301L-FYS NEW	0.1																							●												
			11T302R-FYS NEW	0.2																							●												
			11T302L-FYS NEW	0.2																							●												
			11T304R-FYS NEW	0.4																							●												
			11T304L-FYS NEW	0.4																							●												

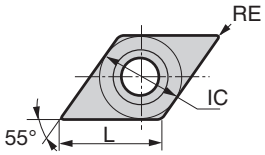
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Positive Inserts

Indexable Insert

DC 55° Diamond Type / 7° Pos. / With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

DC■■11T3●●

Dimensions (mm)	Cutting Edge Length L	11.6	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application

		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	○	●	✱	○	○	✱				○	○											✱	●	●		●	✱	✱	●	●							
M	Stainless Steel				✱			✱	●	●	✱	○	○											✱	✱	●	✱												
K	Cast Iron			✱			✱		●	●	✱	○	○	●	●	✱	○	○				✱		✱		●						●							
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																			●	●	✱	○	✱	✱													
H	Hardened Steel																		●																			

SUMIBORON (CBN) Inserts L58 on | SUMIDIA (PCD) Inserts M13 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C17, D14, D18, D19, D24, D25 | Applicable Internal Holders E13, E28 to E32

Coated Carbide | Coated Cermet | Cermet | Cemented Carbide

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FY** 15°		DCGT 11T3003R-FY	0.03																			●	●			●	●	●											
			11T3003L-FY	0.03																			●	●			●	●	●											
			11T301R-FY	0.1																			●	●			●	●	●					●	●					
			11T301L-FY	0.1																			●	●			●	●	●					●	●					
			11T302R-FY	0.2																			●	●			●	●	●					●	●					
			11T302L-FY	0.2																			●	●			●	●	●					●	●					
			11T304R-FY	0.4																			●	●			●	●	●					●	●					
			11T304L-FY	0.4																			●	●			●	●	●					●	●					
	FY 15°		DCET 11T3003R-FY	0.03																							●		●											
			11T3003L-FY	0.03																							●		●											
			11T3008R-FY	0.08																							●		●											
			11T3008L-FY	0.08																							●		●											
			11T301R-FY	0.1																							●		●											
			11T301L-FY	0.1																							●		●											
			11T3018R-FY	0.18																							●		●											
			11T3018L-FY	0.18																							●		●											
			11T302R-FY	0.2																							●		●											
			11T302L-FY	0.2																							●		●											
			11T304R-FY	0.4																							●		●											
			11T304L-FY	0.4																							●		●											
Finishing to Light Cutting	**SD** 0°		DCGT 11T304R-SD	0.4																										●			●	●					
			11T304L-SD	0.4																										●			●	●					
			11T308R-SD	0.8																										●			●	●					
			11T308L-SD	0.8																										●			●	●					
Light Cutting	**LB** 15°		DCMT 11T302N-LB	0.2			●	●		●	●	●	●	●																	●	▲		●						
			11T304N-LB	0.4			●	●		●	●	●	●	●																	●	▲		●						
			11T308N-LB	0.8			●	●		●	●	●	●	●																	●	▲		●						
	SU 8°		DCMT 11T302N-SU	0.2	●	○	●	●		●	●	●	●	●	▲	●							○	●	●				●		●	●	▲	●	●					
			11T304N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●				●		●	●	▲	●	●					
			11T308N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●				●		●	●	▲	●	●					
	SI 15°		DCGT 11T301MN-SI	< 0.1											▲	●							●	●	●	●	●	●	●		●	●		●	●					
			11T302MN-SI	< 0.2											▲	●							●	●	●	●	●	●	●		●	●		●	●					
			11T304MN-SI	< 0.4											▲	●							●	●	●	●	●	●	●		●	●		●	●					
			11T308MN-SI	< 0.8											▲	●							●	●	●	●			●		●	●		●	●					
	SC 6°		DCGT 11T3003N-SC	0.03																							●	●	●					●	●					
			DCGT 11T301MN-SC	< 0.1																							●	●	●	●	●			●	●					
			11T302MN-SC	< 0.2																							●	●	●	●	●			●	●					
			11T304MN-SC	< 0.4																							●	●	●	●	●			●	●					
			11T308MN-SC	< 0.8																							●	●		●	●			●	●					

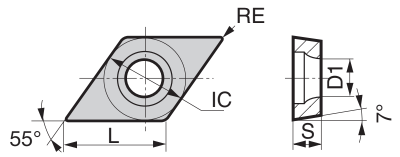
A "<" next to the corner radius RE indicates a negative tolerance.

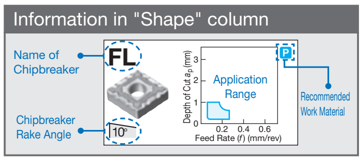
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Positive Inserts

Insert
B
Neg.
Pos.
C
D
R
S
T
V
W
Ceramics Solid CBN

DC — 55° Diamond Type 7° Pos. With Hole





● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
◕ : General Cutting 1st Recommendation ◔ : General Cutting 2nd Recommendation
⊠ : Interrupted Cutting 1st Recommendation ⊡ : Interrupted Cutting 2nd Recommendation

DC■■11T3●●

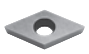
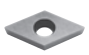
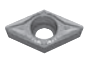
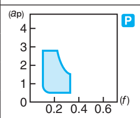
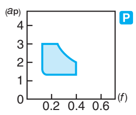
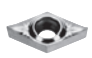
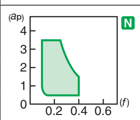
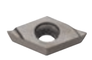
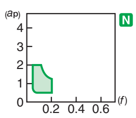
Dimensions (mm)				
	Cutting Edge Length L	11.6	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

SUMIBORON (CBN) Inserts ☞ L58 on
SUMIDIA (PCD) Inserts ☞ M13
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C17, D14, D18, D19, D24, D25
Applicable Internal Holders ☞ E13, E28 to E32

Recommended Application

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔	◕	⊠	○	◔	⊡		◔			◔									⊡		⊡	◕			◕	⊠	⊡	●	◕							
M Stainless Steel				⊡			⊡	●	◕	⊠	○	◔									⊡		⊡	◕	⊡													
K Cast Iron			⊡			⊡							●	◕	⊠	○	◔			⊡		⊡		◕						●								
N Non-Ferrous Metal																																						◕
S Exotic Alloy																			●	◕	⊠	◔	⊡	⊡														
H Hardened Steel																		●																				

Coated Carbide: AC8015P – ACZ150; Coated Cermet: T1500Z, T2500Z, T3000Z; Cermet: T1000A, T1500A; Cemented Carbide: ST10P, ST20E, A30, G10E, EH510, EH520, H1

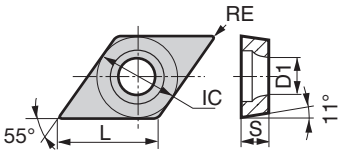
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting			DCMW 11T304	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			11T308	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			DCGW 11T300	0	—	—	—	—	—	—	—	—	—	—	—	—																										
			11T301	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										
			11T302	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●																				
			11T304	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●																				
			11T308	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●																				
Light to Medium Cutting	GU  8°		DCMT 11T302N-GU New	0.2	●	○	●	●				●	●	●								—						—		—	●	●			●							
			11T304N-GU New	0.4	●	○	●	●				●	●	●								—						—		—	●	●			●							
			11T308N-GU New	0.8	●	○	●	●				●	●	●								—						—		—	●	●			●							
			11T312N-GU New	1.2			●						●									—						—		—	—	—	—	—	—							—
	MU  0°		DCMT 11T304N-MU	0.4	●	○	●		●	●		●	●			●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			11T308N-MU	0.8	●	○	●	●	●	●	●	●	●			●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
For Aluminum	AG  20°		DCGT 11T302N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T304N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T308N-AG	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AY  15°		DCGT 11T301R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T301L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T302R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T302L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T304R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			11T304L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

55° Diamond Type Positive Inserts

Indexable Insert

DP 55° Diamond Type 11° Pos. With Hole



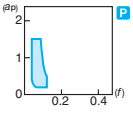
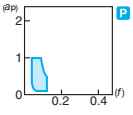
Grade Selection A2, A3
Chipbreaker Selection B10 on
Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

DP■■0702●●

Dimensions (mm)	Cutting Edge Length L	7.7	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

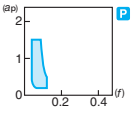
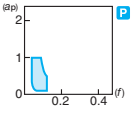
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		DPGT 0702003R-FX	0.03																																		
			0702003L-FX	0.03																																		
			070201R-FX	0.1																																		
			070201L-FX	0.1																																		
			070202R-FX	0.2																																		
			070202L-FX	0.2																																		
	FY		DPGT 0702003R-FY	0.03																																		
			0702003L-FY	0.03																																		
			070201R-FY	0.1																																		
			070201L-FY	0.1																																		
			070202R-FY	0.2																																		
			070202L-FY	0.2																																		

DP■■11T3●●

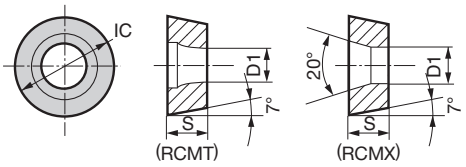
Dimensions (mm)	Cutting Edge Length L	11.6	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

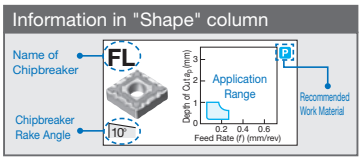
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		DPGT 11T3003R-FX	0.03																																		
			11T3003L-FX	0.03																																		
			11T301R-FX	0.1																																		
			11T301L-FX	0.1																																		
			11T302R-FX	0.2																																		
			11T302L-FX	0.2																																		
	FY		DPGT 11T3003R-FY	0.03																																		
			11T3003L-FY	0.03																																		
			11T301R-FY	0.1																																		
			11T301L-FY	0.1																																		
			11T302R-FY	0.2																																		
			11T302L-FY	0.2																																		

Round Type Positive Inserts

RC Round Type 7° Pos. With Hole



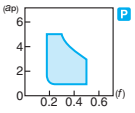
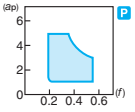
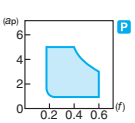


●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

RC■■●●●●●

Dimensions (mm)	Inscribed Circle IC	10.0 to 32.0	Thickness S	3.18 to 9.52
	Hole Dia. D1	3.6 to 9.5		

Recommended Application

		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
	Shape	Application Range	Cat. No.	IC	S	D1	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	RX		RCMT 1003M0N-RX	10.0	3.18	4.4	●	○	●	●	●	●	●					●																									
			RCMT 1204M0N-RX	12.0	4.76	4.4	●	○	●	●	●	●	●					●																									
	-5°		RCMT 1606M0N-RX	16.0	6.35	5.0	●	○	●	●	●	●	●					●																									
			RCMT 2006M0N-RX	20.0	6.35	6.5	●	○	●	●	●	●	●					●																									
			RCMT 2507M0N-RX	25.0	7.94	7.6	●	○	●	●	●	●	●					●																									
	RH		RCMT 1204M0N-RH	12.0	4.76	4.4	●	○	●	●	●	●	●					●																									
			RCMT 1606M0N-RH	16.0	6.35	5.0	●	○	●	●	●	●	●					●																									
	-15°		RCMT 2006M0N-RH	20.0	6.35	6.5	●	○	●	●	●	●	●					●																									
Roughing	RP		RCMX 1003M0N-RP	10.0	3.18	3.6	●	○	●	●	●	●	●					●	●	●	●	▲	▲																●				
			RCMX 1204M0N-RP	12.0	4.76	4.2	●	○	●	●	●	●	●					●	●	●	●	▲	▲		○	●	●	●											●				
	-15°		RCMX 1606M0N-RP	16.0	6.35	5.2	●	○	●	●	●	●	●					●	●	●	●	▲	▲																●				
			RCMX 2006M0N-RP	20.0	6.35	6.5	●	○	●	●	●	●	●					●							○	●	●	●											●				
			RCMX 2507M0N-RP	25.0	7.94	7.2	●	○	●	●	●	●	●																														
			RCMX 3209M0N-RP	32.0	9.52	9.5	●	○	●		●	●																															

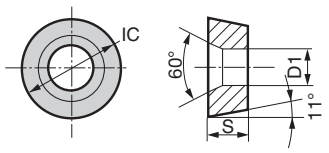
Applicable External Holders ☞ C18

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Round Type Positive Inserts

Indexable Insert

RP Round Type 11° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

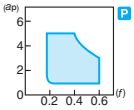
●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

RP■■●●●●●

Dimensions (mm)	Inscribed Circle IC	8.0 to 24.0	Thickness S	3.18 to 6.35
	Hole Dia. D1	3.3 to 7.3		

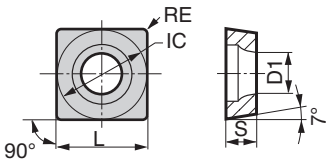
SUMIDIA (PCD) Inserts M26

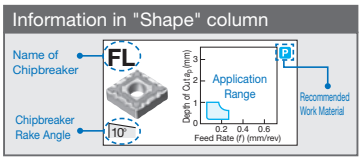
Recommended Application		Coated Carbide																							Coated Cermet			Cermet		Cemented Carbide				
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✖					◔									✖			●			●	✖	✖	●	●							
M	Stainless Steel			✖				✖	●	●	✖	○	◔									✖			●	●													
K	Cast Iron			✖				✖						●	●	✖	○	◔				✖			●						●							
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	◔	✖	✖														
H	Hardened Steel																	●																				

	Shape	Application Range	Cat. No.	IC	S	D1
Medium Cutting			RPGW 0803M0	8.0	3.18	3.3
			1004M0	10.0	4.76	3.8
			1204M0	12.0	4.76	4.3
			1604M0	16.0	4.76	5.3
			2004M0	20.0	4.76	6.3
			2406M0	24.0	6.35	7.3
Roughing	RD  0°		RPGT 0803M0N-RD	8.0	3.18	3.3
			1004M0N-RD	10.0	4.76	3.8
			1204M0N-RD	12.0	4.76	4.3
			1604M0N-RD	16.0	4.76	5.3
			2004M0N-RD	20.0	4.76	6.3
			2406M0N-RD	24.0	6.35	7.3

Square Type Positive Inserts

SC Square Type 7° Pos. With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

SC■■0702●●

Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	2.38
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIDIA (PCD) Inserts ☞ M14

Applicable External Holders ☞ D26

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCMT 070204N-SC	0.4																																			
	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCGT 070201MN-SC 070202MN-SC	< 0.1 < 0.2																						● ● ● ●	●					● ● ● ●						
			SCGW 070200 070201	0 0.1																																			

A "<" next to the corner radius RE indicates a negative tolerance.

SC■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

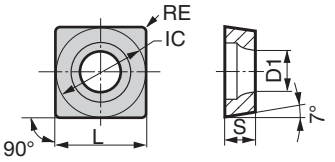
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCMT 090308N-SC	0.8																																			
	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCGT 090301MN-SC 090302MN-SC	< 0.1 < 0.2																														● ● ● ●						
			SCGW 090300 090301	0 0.1																																			

A "<" next to the corner radius RE indicates a negative tolerance.

Square Type Positive Inserts

SC Square Type 7° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

SC■■09T3●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Applicable External Holders D26 Applicable Internal Holders E50

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 20°		SCMT 09T304N-FB	0.4																								●		●	●	▲	●	●							
			09T308N-FB	0.8																								●		●	●	▲	●	●							
	LU 15°		SCMT 09T304N-LU	0.4	●	○	●		●	●			●	●		●														●	●	▲	●	●							
			09T308N-LU	0.8	●	○	●		●	●			●	●		●														●	●	▲	●	●							
	FP 10°		SCMT 09T304N-FP	0.4																														●							
			09T308N-FP	0.8																														●							
	FX 20° *1		SCGT 09T302R-FX	0.2																			●	●				●	●												
			09T302L-FX	0.2																			●	●				●	●												
			09T304R-FX	0.4																			●	●				●	●												
			09T304L-FX	0.4																			●	●				●	●												
Light Cutting	LB 15°		SCMT 09T304N-LB	0.4			●	●		●	●	●	●																		●	●	▲		●						
			09T308N-LB	0.8			●	●		●	●	●	●																		●	●	▲		●						
	SU 8°		SCMT 09T304N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●																
			09T308N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●																
	SC 6°		SCGT 09T301MN-SC	< 0.1																								●	●					●	●						
			09T302MN-SC	< 0.2																								●	●					●	●						
			SCMW 09T308	0.8													●	●	●	▲	▲																				
			SCGW 09T300	0																																					
			09T301	0.1																																					
Light to Medium Cutting	GU 8°		SCMT 09T304N-GU NEW	0.4	●	○	●	●				●	●	●																											
			09T308N-GU NEW	0.8	●	○	●	●				●	●	●																											
	MU 0°		SCMT 09T308N-MU	0.8	●	○	●		●	●		●	●			●	●	●	●	▲	▲																				

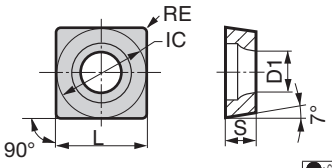
*1: Photo shows left-handed.

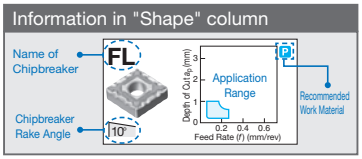
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Positive Inserts

SC Square Type 7° Pos. With Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

SC■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.5

Recommended Application
P Steel
M Stainless Steel
K Cast Iron
N Non-Ferrous Metal
S Exotic Alloy
H Hardened Steel

Applicable Internal Holders E50

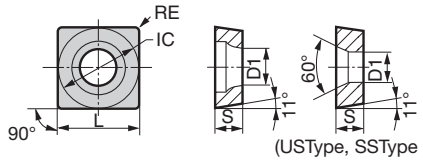
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FP	P	SCMT 120404N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—
	10°		120408N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—
	FX	P	SCGT 120404R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
	15° *1		120404L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
			120408R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120408L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Light Cutting	SU	P	SCMT 120404N-SU	0.4	●	○	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	8°		120408N-SU	0.8	●	○	●	●	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SC	P	SCMT 120408N-SC	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	6°																																							
			SCMW 120408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	▲	▲	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	▲	▲	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Light to Medium Cutting	GU	P	SCMT 120408N-GU New	0.8	●	○	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	8°																																							
	MU	P	SCMT 120408N-MU	0.8	●	○	●	—	●	●	—	—	—	—	—	●	●	●	●	▲	▲	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	0°		120412N-MU	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Positive Inserts

SP Square Type 11° Pos. With Hole



(USType, SSType to SP□□07)

Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SP■■0602●●

Dimensions (mm)	Cutting Edge Length L	6.35	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US		SPMT 060204N-US	0.4												●																									

SP■■0702●●

Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	2.38
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SS		SPMT 070208N-SS	0.8												●																									

SP■■0703●●

Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	3.18
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

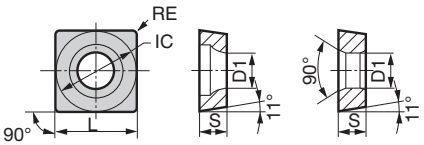
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	SD		SPGT 070304R-SD	0.4																															●		●			
			070304L-SD	0.4																																				
			070308R-SD	0.8																																				
			070308L-SD	0.8																																				
Light Cutting	US		SPMT 070308N-US	0.8												●																									
			SPGW 070304	0.4																																	●				
			070308	0.8																																				

*1: Photo shows left-handed.

Square Type Positive Inserts

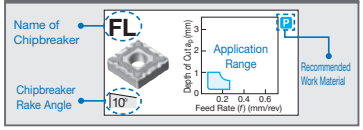
Indexable Insert

SP Square Type / 11° Pos. / With Hole



(USType, SSType/ SP□□09 on)

Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SP■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIDIA (PCD) Inserts M14

Applicable Internal Holders E48

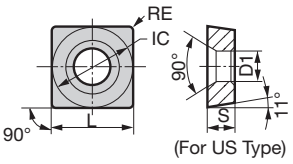
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		**SPMT 090304N-FB**	0.4																								●	●	●	▲	●	●						
			090308N-FB	0.8																								●	●	●	▲	●	●						
	LU		**SPMT 090304N-LU**	0.4	●	○	●		●	●		●	●		●	●					—					—		—		●	▲	●	●						
			090308N-LU	0.8	●	○	●		●	●		●	●		●	●					—					—		—		●	▲	●	●						
Finishing to Light Cutting	**SD** *1		**SPGT 090302R-SD**	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●						
			090302L-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●						
			090304R-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●				●		
			090304L-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●				●		
			090308R-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●						
			090308L-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●				●		
Light Cutting	**LB**		**SPMT 090304N-LB**	0.4			●	●		●	●	●	●	●								—					—		—		●	●	▲		●					
			090308N-LB	0.8			●	●		●	●	●	●	●								—					—		—		●	●	▲		●					
	SS *2		**SPMH 090308N-SS**	0.8												●					—					—		—		—	—	—	—	—		●				
	US *2		**SPMH 090308N-US**	0.8												●					—					—		—		—	—	—	—	—		●				
			SPGW 090300	0.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			090304	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—
Light to Medium Cutting	**SF** *3		**SPMT 090304N-SF**	0.4			●	●		●	●											—					—		—		—	—	—	—	—					
			090308N-SF	0.8			●	●		●	●											—					—		—		—	—	—	—	—					

*1: Photo shows left-handed.
*2: Hole Dia. D1=4.4.
*3: Hole Dia. D1=3.3.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Positive Inserts

SP Square Type 11° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SP■■09T3●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting	US	(ap) 2 1 0 0.2 0.4 (f) P	SPMT 09T308N-US	0.8

Coated Carbide | Coated Cermet | Cermet | Cemented Carbide

AC8015P AC8020P AC8025P AC8035P AC810P AC820P AC830P AC6020M AC6030M AC6040M AC610M AC630M AC4010K AC4015K AC420K AC405K AC415K AC503U AC5005S AC5015S AC5025S AC510U AC520U AC1030U AC530U ACZ150 T1500Z T2500Z T3000Z T1000A T1500A ST10P ST20E A30 G10E EH510 EH520 H1

SP■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.5

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting	US	(ap) 2 1 0 0.2 0.4 (f) P	SPMH 120408N-US	0.8

Coated Carbide | Coated Cermet | Cermet | Cemented Carbide

AC8015P AC8020P AC8025P AC8035P AC810P AC820P AC830P AC6020M AC6030M AC6040M AC610M AC630M AC4010K AC4015K AC420K AC405K AC415K AC503U AC5005S AC5015S AC5025S AC510U AC520U AC1030U AC530U ACZ150 T1500Z T2500Z T3000Z T1000A T1500A ST10P ST20E A30 G10E EH510 EH520 H1

SP■■1504●●

Dimensions (mm)	Cutting Edge Length L	15.875	Thickness S	4.76
	Inscribed Circle IC	15.875	Hole Dia. D1	6.5

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting	US	(ap) 2 1 0 0.2 0.4 (f) P	SPMH 150408N-US	0.8

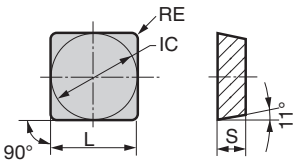
Coated Carbide | Coated Cermet | Cermet | Cemented Carbide

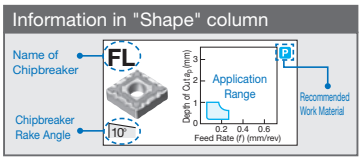
AC8015P AC8020P AC8025P AC8035P AC810P AC820P AC830P AC6020M AC6030M AC6040M AC610M AC630M AC4010K AC4015K AC420K AC405K AC415K AC503U AC5005S AC5015S AC5025S AC510U AC520U AC1030U AC530U ACZ150 T1500Z T2500Z T3000Z T1000A T1500A ST10P ST20E A30 G10E EH510 EH520 H1

Square Type Positive Inserts

Indexable Insert

SP Square Type 11° Pos. Without Hole





●: Continuous Cutting 1st Recommendation ◯: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◯: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

SP■■0702●●

Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	2.38
	Inscribed Circle IC	7.94		

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	W		SPGR 070204L-W	0.4																													●						
Light Cutting			SPGN 070204	0.4																																			●

*1: Photo shows left-handed.

SP■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.18
	Inscribed Circle IC	9.525		

SUMIBORON (CBN) Inserts L70 SUMIDIA (PCD) Inserts M14
Ceramic Inserts B132
Applicable Internal Holders E49

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK		SPMR 090304N-FK	0.4																										●			●						
			090308N-FK	0.8																										●	●	▲	●						
Finishing to Light Cutting	W		SPGR 090304L-W	0.4																															●					
Light to Medium Cutting	SF		SPMR 090304N-SF	0.4			●	●		●	●																												
			090308N-SF	0.8			●	●		●	●																												
	UJ		SPMR 090304N-UJ	0.4			●			●																													
			090308N-UJ	0.8			●	●		●	●																												
Medium Cutting			SPMN 090304	0.4													●	●	●	▲	▲													●	●		●			
			090308	0.8													●	●	●	▲	▲													●	●		●			
			SPGN 090302	0.2																																			
			090304	0.4																														●	●					●
			090308	0.8																			●	●	●									●	●			●		●
			090312	1.2																																			

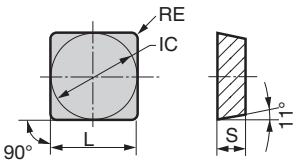
*1: Photo shows left-handed.

▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Positive Inserts

Indexable Insert

SP Square Type 11° Pos. Without Hole



Grade Selection A2, A3
Chipbreaker Selection B10 on
Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✪: Interrupted Cutting 2nd Recommendation

SP■■1203●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	3.18
	Inscribed Circle IC	12.7		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L71 SUMIDIA (PCD) Inserts M14
Ceramic Inserts B132 Applicable External Holders C25, C26

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK	(ap) 2 1 0 0.2 0.4 (f) P	SPMR 120304N-FK	0.4																										●			●	●							
	0°		120308N-FK	0.8																										●			●	●							
Light to Medium Cutting	SF	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	SPMR 120304N-SF	0.4			●	●		●	●																													
	0°		120308N-SF	0.8			●	●		●	●																													
			120312N-SF	1.2			●			●																															
	UJ	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	SPMR 120304N-UJ	0.4			●			●																														
	0°		120308N-UJ	0.8			●	●		●	●																													
Medium Cutting			SPMN 120304	0.4													●	●	●	▲	▲														●	●		●			
			120308	0.8													●	●	●	▲	▲	○	●	●	●										●	●	●	●			
			120312	1.2													●	●	●	▲	▲	○	●	●	●				●						●	●		●			
			SPGN 120304	0.4																			●	●	●										●	●					
			120308	0.8																			●	●	●										●	●		●	●		
			120312	1.2																																		●			

SP■■1204●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

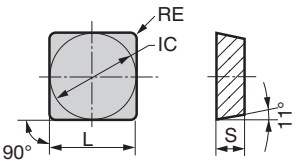
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide				
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SPGN 120408	0.8																																				
			120412	1.2																																				
			120416	1.6																																				

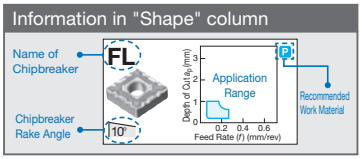
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Square Type Positive Inserts

Indexable Insert

SP Square Type 11° Pos. Without Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

SP□□1504●●

Dimensions (mm)	Cutting Edge Length L	15.875	Thickness S	4.76
	Inscribed Circle IC	15.875		

Applicable External Holders ☞C25, C26

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SPMN 150408	0.8																		—	○	●	●	●	—	—	—							●	●			
			150412	1.2																		—					—	—	—							●	●			
			SPGN 150408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																		
			150412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																		

SP□□1904●●

Dimensions (mm)	Cutting Edge Length L	19.05	Thickness S	4.76
	Inscribed Circle IC	19.05		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SPMN 190404	0.4																		—					—	—	—							●					
			190408	0.8																		—					—	—	—							●					
			190412	1.2																		—					—	—	—							●	●				
			SPGN 190404	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																		
			190408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																		
			190412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																		
			190416	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																		

SP□□2506●●

Dimensions (mm)	Cutting Edge Length L	25.4	Thickness S	6.35
	Inscribed Circle IC	25.4		

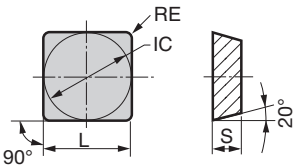
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			SPMN 250620	2.0																		—					—	—	—												

○ mark: Stock or planned stock (please confirm stock availability)

Square Type Positive Inserts

SE Square Type 20° Pos. Without Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

SE■■0702●●

Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	2.38
	Inscribed Circle IC	7.94		

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			SEGN 070202 070204 070208	0.2 0.4 0.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
																																				●
																																				●
																																				●

SE■■0903●●

Dimensions (mm)	Cutting Edge Length L	9.525	Thickness S	3.18
	Inscribed Circle IC	9.525		

SUMIDIA (PCD) Inserts M15

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			SEGN 090302 090304 090308	0.2 0.4 0.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
																																		●	●	
																																		●	●	
																																		●	●	

SE■■1203●●

Dimensions (mm)	Cutting Edge Length L	12.7	Thickness S	3.18
	Inscribed Circle IC	12.7		

SUMIDIA (PCD) Inserts M15

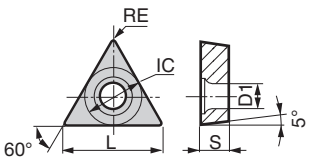
	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			SEGN 120304 120308	0.4 0.8

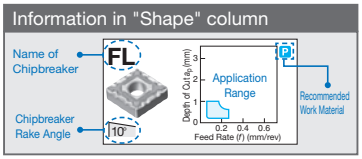
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
																																		●	●	
																																		●	●	

Triangular Type Positive Inserts Indexable Insert

TB Triangular Type 5° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TB■■0601●●

Dimensions (mm)	Cutting Edge Length L	6.9	Thickness S	1.59
	Inscribed Circle IC	3.97	Hole Dia. D1	2.2

Recommended Application

		Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide						
P	Steel	●	◔	●	✖	○	◔	✖		◔				◔			◔				✖	✖	✖	●	●							
M	Stainless Steel				✖			✖	●	●	✖	○	◔							✖	✖	✖	✖	●								
K	Cast Iron		✖			✖								●	●	✖	○	◔		✖		✖	✖	●		●						
N	Non-Ferrous Metal																															●
S	Exotic Alloy																	●	●	✖	◔	✖	✖									
H	Hardened Steel															●																

SUMIBORON (CBN) Inserts ☞L79 **SUMIDIA** (PCD) Inserts ☞M16

Applicable Internal Holders ☞E56, E58

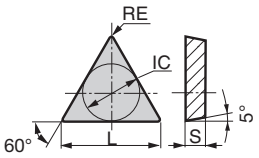
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FW** *1 20°	(ap) 2 1 0 0.2 0.4 (f) P	**TBGT 060102R-FW**	0.2																										●				●							
			060102L-FW	0.2																										●				●							
			060104R-FW	0.4																										●				●							
			060104L-FW	0.4																										●				●							
	FX *1 15°	(ap) 2 1 0 0.2 0.4 (f) P	**TBGT 0601003R-FX**	0.03																				●	●	●		●	●												
			0601003L-FX	0.03																				●	●	●		●	●												
			060101R-FX	0.1																				●	●	●		●	●												
			060101L-FX	0.1																				●	●	●		●	●												
			060102R-FX	0.2																				●	●	●		●	●												
			060102L-FX	0.2																				●	●	●		●	●												
			060104R-FX	0.4																				●	●	●		●	●												
			060104L-FX	0.4																				●	●	●		●	●												
	FY *1 15°	(ap) 2 1 0 0.2 0.4 (f) P	**TBGT 0601003R-FY**	0.03																																				
			0601003L-FY	0.03																																				
			060101R-FY	0.1																				●	●			●	●												
			060101L-FY	0.1																				●	●			●	●												
			060102R-FY	0.2																				●	●			●	●						●	●						
			060102L-FY	0.2																				●	●			●	●						●	●						
			060104R-FY	0.4																				●	●			●	●						●	●						
			060104L-FY	0.4																				●	●			●	●						●	●						
Finishing to Light Cutting	**W** *1 0°	(ap) 2 1 0 0.2 0.4 (f) P	**TBGT 060102R-W**	0.2																								●	●		●			●	●			●			
			060102L-W	0.2																								●	●		●			●	●			●			
			060104R-W	0.4																								●	●		●			●	●			●			
			060104L-W	0.4																								●	●		●			●	●			●			
Light Cutting			**TBGW 060102**	0.2																															●						
			060104	0.4																															●						
For Aluminum	**AY** *1 15°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	**TBGT 060101R-AY**	0.1																																				●
			060101L-AY	0.1																																				●
			060102R-AY	0.2																																				●
			060102L-AY	0.2																																				●
			060104R-AY	0.4																																				●
			060104L-AY	0.4																																				●

*1: Photo shows left-handed.

▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TB Triangular Type 5° Pos. Without Hole



Grade Selection A2, A3
Chipbreaker Selection B10 on
Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

TB■■0601●●

Dimensions (mm)	Cutting Edge Length L	6.9	Thickness S	1.59
	Inscribed Circle IC	3.97		

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

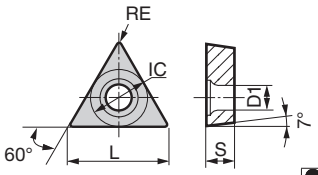
SUMIBORON (CBN) Inserts L79 SUMIDIA (PCD) Inserts M16

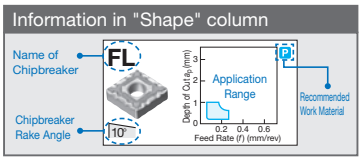
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	W	(ap) 2 1 0 0.2 0.4 (f) P	TBGR 060104L-W	0.4																													●						
Light Cutting			TBGN 060104	0.4																													●						●

*1: Photo shows left-handed.

Triangular Type Positive Inserts Indexable Insert

TC Triangular Type 7° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TC■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.2	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.3

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	**SC**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**TCGT 080201MN-SC**	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—
			080202MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—
			TCGW 080200	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			080201	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

A "<" next to the corner radius RE indicates a negative tolerance.

TC■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56	Hole Dia. D1	2.5

SUMIDIA (PCD) Inserts M16

Applicable External Holders D27

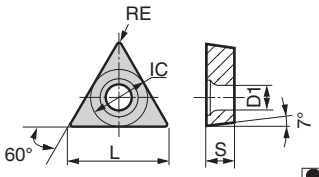
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FX**	(ap) 2 1 0 0.2 0.4 (f) P	**TCGT 090201R-FX**	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—
	15° *1		**090201L-FX**	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
			090202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
			090202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
	FY	(ap) 2 1 0 0.2 0.4 (f) P	**TCGT 090201R-FY**	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
	15° *1		**090201L-FY**	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
			090202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
			090202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—
Light Cutting	**SC**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**TCGT 090201MN-SC**	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—
	6°		**090202MN-SC**	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—
			TCGW 090200	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			090201	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*1: Photo shows left-handed.
A "<" next to the corner radius RE indicates a negative tolerance.

Triangular Type Positive Inserts Indexable Insert

TC Triangular Type 7° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TC■■1102●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIDIA (PCD) Inserts M16

Applicable External Holders D27

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB		TCMT 110204N-FB	0.4																								●		●	●	▲	●	●							
	20°		110208N-FB	0.8																								●		●	●	▲	●	●							
	LU		TCMT 110204N-LU	0.4	●	○	●		●	●			●	●		●						—								●	●	▲	●	●							
	15°		110208N-LU	0.8	●	○	●		●	●			●	●		●						—								●	●	▲	●	●							
	FP		TCMT 110204N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—
	10°		110208N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—
	FX		TCGT 110201R-FX	0.1																		—		●	●			●	●												
	15° *1		110201L-FX	0.1																		—		●	●			●	●												
			110202R-FX	0.2																		—		●	●			●	●												
			110202L-FX	0.2																		—		●	●			●	●												
	FY		TCGT 110201R-FY	0.1																		—		●	●			●	●												
	15° *1		110201L-FY	0.1																		—		●	●			●	●												
			110202R-FY	0.2																		—		●	●			●	●												
			110202L-FY	0.2																		—		●	●			●	●												
Light Cutting	LB		TCMT 110204N-LB	0.4			●	●		●	●	●	●	●								—									●	●	▲		●						
	15°		110208N-LB	0.8			●	●		●	●	●	●	●								—									●	●	▲		●						
	SU		TCMT 110204N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●						—	○	●	●		●		●			●									
	8°		110208N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●						—	○	●	●		●		●			—	—	—							
	SI		TCGT 110204MN-SI	< 0.4	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●			●	●					
	15°																																							
	SC		TCGT 110201MN-SC	< 0.1																		—							●	●				●	●					
	6°		110202MN-SC	< 0.2																		—							●	●				●	●					
			TCMW 110204	0.4													●	●	●	▲	▲	—									—	—	—							
			110208	0.8													●	●	●	▲	▲	—									—	—	—							
			TCGW 110200	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			110201	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

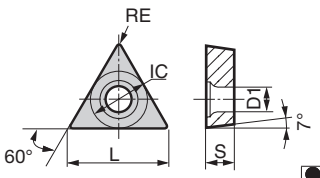
*1: Photo shows left-handed.

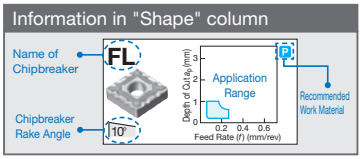
A "<" next to the corner radius RE indicates a negative tolerance.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TC Triangular Type 7° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FX** *1		**TCGT 110301R-FX**	0.1																													●						
			110301L-FX	0.1																													●						
			110302R-FX	0.2																													●						
			110302L-FX	0.2																													●						
			110304R-FX	0.4																													●						
			110304L-FX	0.4																													●						
Light Cutting	**SC**		**TCGT 110301MN-SC**	< 0.1																													●	●					
			110302MN-SC	< 0.2																													●	●					
			TCGW 110300	0																																			
			110301	0.1																																			

*1: Photo shows left-handed.
Values for corner radius RE prefixed with "<" indicate negative tolerances.

TC■■16T3●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.3

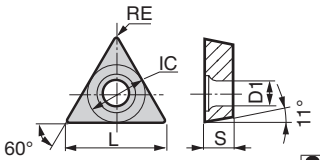
Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FP**		**TCMT 16T304N-FP**	0.4																													●						
			16T308N-FP	0.8																													●						
Light Cutting	**SU**		**TCMT 16T304N-SU**	0.4	●	○	●	●	●	●	●	●	●	●	▲	●					—	○	●	●			—			—	—	—	—						
			16T308N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●					—	○	●	●			—			—	—	—	—						
			TCMW 16T304	0.4													●	●	●	▲	▲	—						—			—	—	—	—						
			16T308	0.8													●	●	●	▲	▲	—						—			—	—	—	—						
			16T312	1.2													●	●	●	▲	▲	—						—			—	—	—	—						

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

TP■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.2	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L80 | SUMIDIA (PCD) Inserts M17 | SUMIDIA BINDERLESS Inserts M28 | Applicable Internal Holders E56 to E59

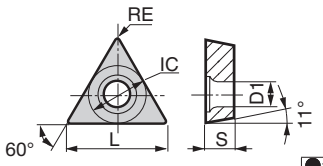
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		TPMT 080202N-FB	0.2																									●	●	●	▲	●	●								
			080204N-FB	0.4																									●	●	●	▲	●	●								
	LU		TPMT 080202N-LU	0.2									●	●		●													●				●	●								
			080204N-LU	0.4									●	●		●													●			●	●	●								
	FW *1		TPGT 080202R-FW	0.2																										●			●	●								
			080202L-FW	0.2																										●			●	●								
			080204R-FW	0.4																										●			●	●								
			080204L-FW	0.4																										●	●		●	●								
	FX *1		TPGT 080202R-FX	0.2																			●	●			●	●	●													
			080202L-FX	0.2																			●	●			●	●	●													
			080204R-FX	0.4																			●	●			●	●	●													
			080204L-FX	0.4																			●	●			●	●	●													
	FY *1		TPGT 0802003R-FY	0.03																			●	●			●	●	●													
			0802003L-FY	0.03																			●	●			●	●	●													
			080201R-FY	0.1																			●	●			●	●	●													
			080201L-FY	0.1																			●	●			●	●	●													
			080202R-FY	0.2																			●	●			●	●	●						●	●						
			080202L-FY	0.2																			●	●			●	●	●						●	●						
			080204R-FY	0.4																			●	●			●	●	●						●	●						
			080204L-FY	0.4																			●	●			●	●	●						●	●						
Finishing to Light Cutting	**W** *1		TPGT 080202R-W	0.2																								●	●	●	●	▲	●	●				●			
			080202L-W	0.2																								●	●	●	●	▲	●	●	●			●			
			080204R-W	0.4																								●	●		●		●	●							
			080204L-W	0.4																								●	●	●	●	▲	●	●				●			
Light Cutting	**LB**		TPMT 080202N-LB	0.2			●	●		●	●	●	●	●																	●	●	▲		●							
			080204N-LB	0.4			●	●		●	●	●	●	●																	●	●	▲		●							
	SU		TPMT 080202N-SU	0.2								●	●	●		●							○	●	●				●				●	●								
			080204N-SU	0.4								●	●	●		●							○	●	●				●				●	●								
			TPGW 080202	0.2																												▲	●	●								
			080204	0.4																												▲	●	●								
For Aluminum	**AY** *1		TPGT 080201R-AY	0.1																																						●
			080201L-AY	0.1																																						●
			080202R-AY	0.2																																						●
			080202L-AY	0.2																																						●
			080204R-AY	0.4																																						●
			080204L-AY	0.4																																						●

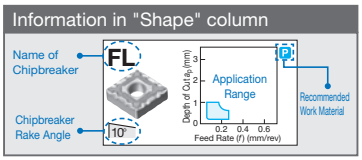
*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TP■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L81 SUMIDIA (PCD) Inserts M17
Applicable Internal Holders E56

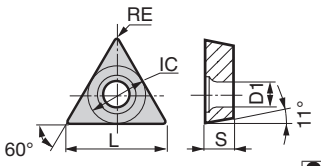
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																						Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**	P	TPMT 090202N-FB	0.2																								●		●	●	▲	●	●						
			090204N-FB	0.4																								●		●	●	▲	●	●						
	LU	P	TPMT 090202N-LU	0.2	●	○	●			●											—						—			●	●	▲	●	●						
			090204N-LU	0.4	●	○	●			●											—						—			●	●	▲	●	●						
	FX *1	P	TPGT 090204L-FX	0.4																													●	●						
	FY *1	P	TPGT 090201R-FY	0.1																			●	●			●												
			090201L-FY	0.1																			●	●			●												
			090202R-FY	0.2																			●	●			●							●					
			090202L-FY	0.2																			●	●			●							●					
			090204R-FY	0.4																			●	●			●							●					
			090204L-FY	0.4																			●	●			●							●					
Light Cutting	**LB**	P	TPMT 090202N-LB	0.2			●	●		●	●	●	●	●							—						—			●	●	▲		●						
			090204N-LB	0.4			●	●		●	●	●	●	●							—						—			●	●	▲		●						
	SU	P	TPMT 090204N-SU NEW	0.4																	—	○	●	●			—		—											
For Aluminum	**AY** *1	N	TPGT 090201R-AY	0.1																																			●
			090201L-AY	0.1																																			●
			090202R-AY	0.2																																			●
			090202L-AY	0.2																																			●
			090204R-AY	0.4																																			●
			090204L-AY	0.4																																			●

*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type / 11° Pos. / With Hole



Grade Selection A2, A3
Chipbreaker Selection B10 on
Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TP■■1102●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

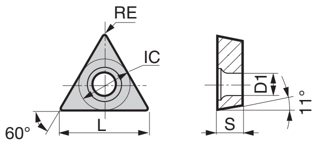
SUMIBORON (CBN) Inserts L82 SUMIDIA (PCD) Inserts M18
Applicable Internal Holders E56

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	Cermet: T3000Z	T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FW**	P	TPGT 110202R-FW	0.2																										●			●	●								
			110202L-FW	0.2																										●			●	●								
			110204R-FW	0.4																										●			●	●								
			110204L-FW	0.4																										●			●	●								
	FX	P	TPGT 110202R-FX	0.2																				●	●	●																
			110202L-FX	0.2																				●	●	●																
			110204R-FX	0.4																				●	●	●																
			110204L-FX	0.4																				●	●	●																
			110208R-FX	0.8																				●	●	●																
			110208L-FX	0.8																				●	●	●																
	FY	P	TPGT 110202R-FY	0.2																													●	●								
			110202L-FY	0.2																													●	●								
			110204R-FY	0.4																													●	●								
			110204L-FY	0.4																													●	●								
			110208R-FY	0.8																														●								
			110208L-FY	0.8																														●								
For Aluminum	**AY**	N	TPGT 110202R-AY	0.2																																						●
			110202L-AY	0.2																																						●
			110204R-AY	0.4																																						●
			110204L-AY	0.4																																						●

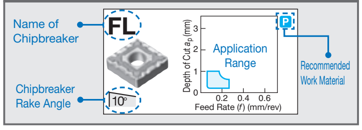
*1: Photo shows left-handed.

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11°Pos. With Hole



Information in "Shape" column



● : Continuous Cutting 1st Recommendation　○ : Continuous Cutting 2nd Recommendation
◐ : General Cutting 1st Recommendation　◌ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation　✧ : Interrupted Cutting 2nd Recommendation

TP■■1103●●

Dimensions (mm)				
	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	3.4

SUMIBORON (CBN) Inserts ☞ L83 on　SUMIDIA (PCD) Inserts ☞ M18
SUMIDIA BINDERLESS Inserts ☞ M28　Applicable Internal Holders ☞ E14, E56 to E60

Recommended Application (Coated Carbide: AC8015P–AC530U; Coated Cermet: ACZ150; Cermet: T1500Z–T1500A; Cemented Carbide: ST10P–H1)

Work Material	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◌	◐	✖	○	◌	✧		◌			◌									✧		✧	◐			◐	✖	✧	●	◐							
M Stainless Steel				✧			✧	●	◐	✖	○	◌									✧		✧	◐	✧													
K Cast Iron			✧			✧							●	◐	✖	○	◌			✧		✧		◐						●								
N Non-Ferrous Metal																																						◐
S Exotic Alloy																			●	◐	✖	◌	✧	✧														
H Hardened Steel																	●																					

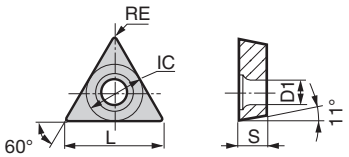
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 20°	P	TPMT 110302N-FB	0.2																									●		●	●	▲	●	●							
Finishing	FB 20°	P	110304N-FB	0.4																									●		●	●	▲	●	●							
Finishing	FB 20°	P	110308N-FB	0.8																									●		●	●	▲	●	●							
Finishing	LU 15°	P	TPMT 110302N-LU	0.2										●															●		●	●		●	●							
Finishing	LU 15°	P	110304N-LU	0.4	●	○	●		●	●			●	●		●													●		●	●	▲	●	●							
Finishing	LU 15°	P	110308N-LU	0.8	●	○	●		●	●			●	●		●													●		●	●	▲	●	●							
Finishing	FK 0°	P	TPMT 110308N-FK	0.8																														●	●							
Finishing	FC 15°	P	TPGT 110302MN-FC	< 0.2																				●	●		●	●	●					●	●							
Finishing	FC 15°	P	110304MN-FC	< 0.4																				●	●		●	●	●					●	●							
Finishing	FX 15° *1	P	TPGT 110302R-FX	0.2																				●	●		●	●	●													
Finishing	FX 15° *1	P	110302L-FX	0.2																				●	●		●	●	●													
Finishing	FX 15° *1	P	110304R-FX	0.4																				●	●		●	●	●													
Finishing	FX 15° *1	P	110304L-FX	0.4																				●	●		●	●	●													
Finishing	FX 15° *1	P	110308R-FX	0.8																				●	●		●	●	●													
Finishing	FX 15° *1	P	110308L-FX	0.8																				●	●		●	●	●													
Finishing	FY 15° *1	P	TPGT 1103003R-FY	0.03																				●	●		●	●	●	●												
Finishing	FY 15° *1	P	1103003L-FY	0.03																				●	●		●	●	●	●												
Finishing	FY 15° *1	P	110301R-FY	0.1																				●	●		●	●	●	●												
Finishing	FY 15° *1	P	110301L-FY	0.1																				●	●		●	●	●	●												
Finishing	FY 15° *1	P	110302R-FY	0.2																				●	●		●	●	●	●	●			●	●							
Finishing	FY 15° *1	P	110302L-FY	0.2																				●	●		●	●	●	●	●	●	▲	●	●							
Finishing	FY 15° *1	P	110304R-FY	0.4																				●	●		●	●	●	●	●				●							
Finishing	FY 15° *1	P	110304L-FY	0.4																				●	●		●	●	●	●	●	●	▲	●	●							
Finishing	FY 15° *1	P	110308R-FY	0.8																				●	●		●	●	●						●							
Finishing	FY 15° *1	P	110308L-FY	0.8																				●	●		●	●	●						●							
Finishing to Light Cutting	SD 0° *1	P	TPGT 110302R-SD	0.2																								●	●		●			●	●							
Finishing to Light Cutting	SD 0° *1	P	110302L-SD	0.2																								●	●		●	●	▲	●	●				●			
Finishing to Light Cutting	SD 0° *1	P	110304R-SD	0.4																								●	●		●	●	▲	●	●				●			
Finishing to Light Cutting	SD 0° *1	P	110304L-SD	0.4																				●	●	●		●	●		●	●	▲	●	●	●			●			
Finishing to Light Cutting	SD 0° *1	P	110308R-SD	0.8																								●	●		●			●	●							
Finishing to Light Cutting	SD 0° *1	P	110308L-SD	0.8																								●	●		●	●	▲	●	●				●			
Finishing to Light Cutting	SDW 0° *1 →B135 Wiper	P	TPGX 110304R-SDW	0.4																												●	▲									
Finishing to Light Cutting	SDW 0° *1 →B135 Wiper	P	110304L-SDW	0.4																												●	▲									
Finishing to Light Cutting	SDW 0° *1 →B135 Wiper	P	110308R-SDW	0.8																												●	▲									
Finishing to Light Cutting	SDW 0° *1 →B135 Wiper	P	110308L-SDW	0.8																												●	▲									

*1: Photo shows left-handed.
Values for corner radius RE prefixed with "<" indicate negative tolerances.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

TP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	3.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

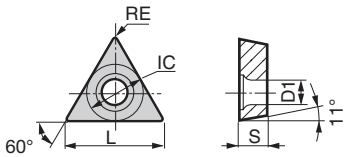
SUMIBORON (CBN) Inserts L83 on · SUMIDIA (PCD) Inserts M18 · SUMIDIA BINDERLESS Inserts M28 · Applicable Internal Holders E14, E56 to E60

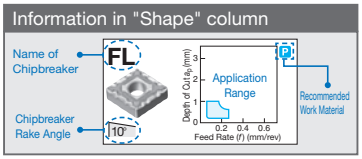
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB	P	TPMT 110302N-LB	0.2			●	●		●	●	●	●	●																●	●	▲		●								
			110304N-LB	0.4			●	●		●	●	●	●	●																●	●	▲		●								
			110308N-LB	0.8			●	●		●	●	●	●	●																●	●	▲		●								
	SU	P	TPMT 110302N-SU	0.2	●	○	●	●		●	●	●	●	●	▲	●							○	●	●			●		●	●			●	●							
			110304N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●			●		●	●	▲		●	●							
			110308N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●			●		●	●	▲		●	●							
			TPGW 110302	0.2																		●																				
			110304	0.4																		●		●	●	●								●	●				●			
			110308	0.8																		●												●	●							
Light to Medium Cutting	GU	P	TPMT 110304N-GU New	0.4	●	○	●	●				●	●	●																●	●			●								
			110308N-GU New	0.8	●	○	●	●				●	●	●																●	●			●								
	MU	P	TPMT 110304N-MU	0.4	●	○	●		●	●		●	●			●	●	●	●	▲	▲																				
			110308N-MU	0.8	●	○	●		●	●		●	●			●	●	●	●	▲	▲																				
	SF	P	TPMH 110304N-SF	0.4			●	●		●	●																															
			110308N-SF	0.8			●	●		●	●																															
For Aluminum	AY *1	N	TPGT 110301R-AY	0.1																																					●
			110301L-AY	0.1																																					●
			110302R-AY	0.2																																					●
			110302L-AY	0.2																																					●
			110304R-AY	0.4																																					●
			110304L-AY	0.4																																					●

*1: Photo shows left-handed.

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TP■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L87 SUMIDIA (PCD) Inserts ☞M19

Applicable Internal Holders ☞E56, E60

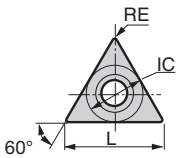
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		**TPMT 160304N-FB**	0.4																								●		●	●	▲	●	●							
			160308N-FB	0.8																								●		●	●	▲	●	●							
	FX *1		**TPGT 160304R-FX**	0.4																				●	●		●														
			160304L-FX	0.4																				●	●		●														
			160308R-FX	0.8																				●	●		●														
			160308L-FX	0.8																				●	●		●														
	FY *1		**TPGT 160302R-FY**	0.2																				●	●		●														
			160302L-FY	0.2																				●	●		●														
			160304R-FY	0.4																				●	●		●														
			160304L-FY	0.4																				●	●		●														
			160308R-FY	0.8																				●	●		●														
			160308L-FY	0.8																				●	●		●														
Light Cutting	**LB**		**TPMT 160304N-LB**	0.4			●	●		●	●	●	●	●								—					—		—	●	●	▲		●						
			160308N-LB	0.8			●	●		●	●	●	●	●								—					—		—	●	●	▲		●						

*1: Photo shows left-handed.

▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✱: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

TP■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L87 on | SUMIDIA (PCD) Inserts M19

SUMIDIA BINDERLESS Inserts M28 | Applicable Internal Holders E14, E56 to E58

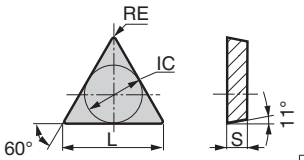
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		TPMT 160404N-FB	0.4																								●	●	●	▲	●	●							
			160408N-FB	0.8																								●	●	●	▲	●	●							
	FK		TPMT 160404N-FK	0.4																												●	●							
			160408N-FK	0.8																													●							
Finishing to Light Cutting	**SD** *1		TPGT 160402R-SD	0.2																												●	●				●		
			160402L-SD	0.2																												●	●				●		
			160404R-SD	0.4																										●	●	▲	●	●				●		
			160404L-SD	0.4																			●	●	●					●	●	▲	●	●	●			●		
			160408R-SD	0.8																										●			●	●				●		
			160408L-SD	0.8																										●			●	●	●			●		
	SDW *1 →B135 Wiper		TPGX 160404R-SDW	0.4																										●				●						
			160404L-SDW	0.4																										●				●						
			160408R-SDW	0.8																										●				●						
			160408L-SDW	0.8																										●				●						
Light Cutting	**LB**		TPMT 160404N-LB	0.4			●	●		●	●	●	●	●																●	●	▲		●						
			160408N-LB	0.8			●	●		●	●	●	●	●																●	●	▲		●						
	SU		TPMT 160404N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●						○	●	●						●	●	▲	●	●						
			160408N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●						○	●	●						●	●	▲	●	●						
			TPGW 160400	0.0																																				
			160404	0.4																				●	●	●												●		
Light to Medium Cutting	**GU**		TPMT 160404N-GU New	0.4	●	○	●	●				●	●	●																●	●			●						
			160408N-GU New	0.8	●	○	●	●				●	●	●																●	●			●						
	MU		TPMT 160404N-MU	0.4	●	○	●		●	●		●	●			●	●	●	●	▲	▲																			
			160408N-MU	0.8	●	○	●		●	●		●	●			●	●	●	●	▲	▲																			
	SF		TPMT 160404N-SF	0.4			●	●		●	●																													
			160408N-SF	0.8			●	●		●	●																													

*1: Photo shows left-handed.

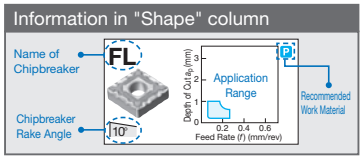
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. Without Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TP■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L90 SUMIDIA (PCD) Inserts ☞M20

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 0°	(ap) 2 1 0 0.2 0.4 (f) P	TPMR 090204N-FK	0.4																													●							
Finishing to Light Cutting	W 0° *1	(ap) 2 1 0 0.2 0.4 (f) P	TPGR 090202R-W	0.2																													●							
			090202L-W	0.2																													●							
			090204R-W	0.4																													●							
			090204L-W	0.4																													●	●						
			090208R-W	0.8																													●							
			090208L-W	0.8																													●							
Light Cutting			TPGN 090202	0.2																													●							
			090204	0.4																													●							●
			090208	0.8																													●							●

*1: Photo shows left-handed.

TP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞L90 on SUMIDIA (PCD) Inserts ☞M20
Ceramic Inserts ☞B132 Applicable Internal Holders ☞E60

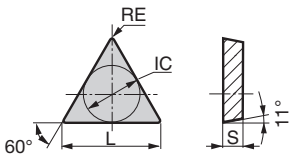
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 0°	(ap) 2 1 0 0.2 0.4 (f) P	TPMR 110302N-FK	0.2																													●	●						
			110304N-FK	0.4																											●	●	▲	●	●						
			110308N-FK	0.8																											●			●	●						
Finishing to Light Cutting	W 0° *1	(ap) 2 1 0 0.2 0.4 (f) P	TPGR 110302R-W	0.2																											●			●	●						
			110302L-W	0.2																											●			●	●						
			110304R-W	0.4																											●			●	●						
			110304L-W	0.4																											●			●	●	●					
			110308L-W	0.8																											●			●	●						
Light to Medium Cutting	SF 0°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	TPMR 110304N-SF	0.4			●	●		●	●											—														●					
			110308N-SF	0.8			●	●		●	●											—																			
	UJ 0°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	TPMR 110304N-UJ	0.4			●	●		●	●											—																			
			110308N-UJ	0.8			●	●		●	●											—																			
Medium Cutting			TPMN 110304	0.4													●	●	●	▲	▲	—	○	●	●	●											●	●			
			110308	0.8													●	●	●	▲	▲	—	○	●	●	●											●	●			

*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. Without Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

TP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35		

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

SUMIBORON (CBN) Inserts L90 on | SUMIDIA (PCD) Inserts M20 | Ceramic Inserts B132 | Applicable Internal Holders E60

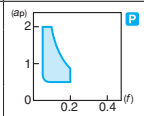
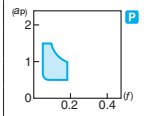
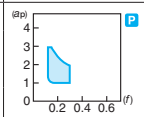
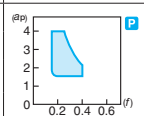
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	Cermet: T3000Z	T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			TPGN 110302	0.2																														●	●							●
			110304	0.4																				●	●	●								●	●				●			●
			110308	0.8																														●	●				●			●
			110312	1.2																																						

TP■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525		

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

SUMIBORON (CBN) Inserts L92 | SUMIDIA (PCD) Inserts M20 | Ceramic Inserts B132 | Applicable External Holders C34, C35 | Applicable Internal Holders E60

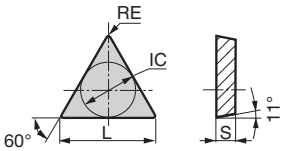
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	Cermet: T3000Z	T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK		TPMR 160304N-FK	0.4																											●	●	▲	●	●							
			160308N-FK	0.8																											●	●	▲	●	●							
			160312N-FK	1.2																															●							
Finishing to Light Cutting	W		TPGR 160302R-W	0.2																											●			●	●							
	*1		160302L-W	0.2																											●			●	●							
			160304R-W	0.4																											●			●	●							
			160304L-W	0.4																											●			●	●	●						
			160308R-W	0.8																											●			●	●							
			160308L-W	0.8																											●			●	●							
Light to Medium Cutting	SF		TPMR 160304N-SF	0.4			●	●		●	●																								●						
			160308N-SF	0.8			●	●		●	●																								●						
			160312N-SF	1.2			●			●																																
	UJ		TPMR 160304N-UJ	0.4			●	●		●	●																															
			160308N-UJ	0.8			●	●		●	●																																
Medium Cutting			TPMN 160304	0.4													●	●	●	▲	▲		○	●	●	●											●		●	●			
			160308	0.8													●	●	●	▲	▲		○	●	●	●											●		●	●			
			160312	1.2													●	●	●	▲	▲																●		●	●			
			TPGN 160302	0.2																														●	●				●			
			160304	0.4																			●	●	●									●	●				●			●
			160308	0.8																			●	●	●									●	●				●	●		●
			160312	1.2																																			●			
			160316	1.6																																						

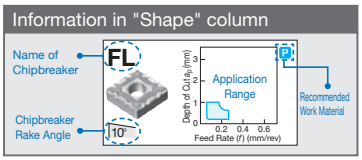
*1: Photo shows left-handed.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

Triangular Type Positive Inserts Indexable Insert

TP Triangular Type 11° Pos. Without Hole





● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

TP■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																							Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TPGN 160404**	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			160408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—
			160412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			160416	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TP■■2204●●

Dimensions (mm)	Cutting Edge Length L	22.0	Thickness S	4.76
	Inscribed Circle IC	12.7		

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L93

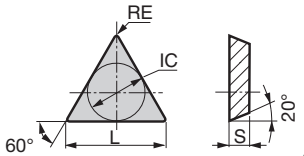
Applicable External Holders ☞ C34, C35

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																							Coated Cermet			Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**SF**		**TPMR 220408N-SF**	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			220412N-SF	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium Cutting			**TPMN 220404**	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	●	●	●	—	—	—	—	—	●	●	—	●	—	●	●	—	—	—
			220408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	●	●	●	—	—	—	—	—	●	●	—	●	—	●	●	—	—	—
			220412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	●	●	●	—	—	—	—	—	●	●	—	●	—	●	●	—	—	—
			220416	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—
			TPGN 220404	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—
			220408	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—
			220412	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			220416	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

○ mark: Stock or planned stock (please confirm stock availability)

Triangular Type Positive Inserts Indexable Insert

TE Triangular Type 20° Pos. Without Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

TE■■1102●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	2.38
	Inscribed Circle IC	6.35		

SUMIDIA (PCD) Inserts M21

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			**TEGN 110202**	0.2
			110204	0.4
			110208	0.8

TE■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35		

SUMIDIA (PCD) Inserts M21

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			**TEGN 110302**	0.2
			110304	0.4
			110308	0.8

TE■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525		

SUMIDIA (PCD) Inserts M21

	Shape	Application Range	Cat. No.	Corner Radius RE
Light to Medium Cutting			**TEGN 160302**	0.2
			160304	0.4
			160308	0.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Coated Carbide: AC8015P, AC8020P, AC8025P, AC8035P, AC810P, AC820P, AC830P, AC6020M, AC6030M, AC6040M, AC610M, AC630M, AC4010K, AC4015K, AC420K, AC405K, AC415K, AC503U, AC5005S, AC5015S, AC5025S, AC510U, AC520U, AC1030U, AC530U, ACZ150

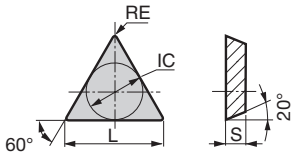
Coated Cermet: T1500Z, T2500Z, T3000Z, T1000A

Cermet: T1500A

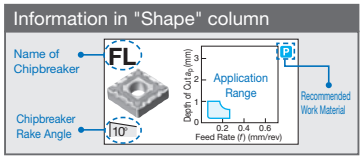
Cemented Carbide: ST10P, ST20E, A30, G10E, EH510, EH520, H1

Triangular Type Positive Inserts Indexable Insert

TE Triangular Type 20° Pos. Without Hole



Information in "Shape" column



● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation
◔ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✖ : Interrupted Cutting 2nd Recommendation

TE■■2204●●

Dimensions (mm)	Cutting Edge Length L	22.0	Thickness S	4.76
	Inscribed Circle IC	12.7		

SUMIDIA (PCD) Inserts M21

Recommended Application

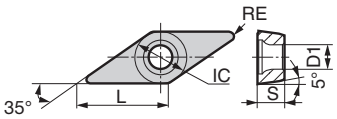
		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide								
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	●	✖	○	◔	✖	◔			◔										✖	✖	✖	✖		✖	●	●	✖	✖	●	●							
M	Stainless Steel				✖		✖	●	●	✖		○	◔									✖		✖	✖	●	✖												
K	Cast Iron			✖			✖							●	●	✖	○	◔					✖		✖	●						●							
N	Non-Ferrous Metal																																					●
S	Exotic Alloy																		●	●	✖	◔	✖	✖	✖													
H	Hardened Steel																	●																				

	Shape	Application Range	Cat. No.	Corner Radius RE	
Light to Medium Cutting	▽		**TEGN 220404**	0.4	
			220408	0.8	
			220412	1.2	

35° Diamond Type Positive Inserts

Indexable Insert

VB 35° Diamond Type / 5° Pos. / With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
●: Interrupted Cutting 1st Recommendation ○: Interrupted Cutting 2nd Recommendation

VB■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L98, L99

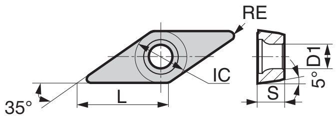
Applicable Internal Holders E37, E39, E40, E42, E43, E45, E46

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																									Coated Cermet			Cermet		Cemented Carbide						
Finishing	**FB**		VBMT 110302N-FB	0.2																								●		●	●	▲	●	●							
	20°		110304N-FB	0.4																								●		●	●	▲	●	●							
			110308N-FB	0.8																								●		●	●	▲	●	●							
	LU		VBMT 110302N-LU	0.2																								●		●	●		●	●							
	15°		110304N-LU	0.4	●	○	●		●	●			●		●													●		●	●	▲	●	●							
			110308N-LU	0.8	●	○	●						●	●		●												●													
	FX		VBGT 110301R-FX	0.1																			●	●				●	●	●			●	●							
	15°		110301L-FX	0.1																			●	●				●	●	●			●	●							
			110302R-FX	0.2																			●	●				●	●	●			●	●							
			110302L-FX	0.2																			●	●				●	●	●			●	●							
			110304R-FX	0.4																			●	●				●	●	●			●	●							
			110304L-FX	0.4																			●	●				●	●	●			●	●							
	FYS		VBGT 1103003R-FYS	0.03																			●	●				●													
	15°		1103003L-FYS	0.03																			●	●				●													
			110301R-FYS	0.1																			●	●				●													
			110301L-FYS	0.1																			●	●				●													
			110302R-FYS	0.2																			●	●				●													
			110302L-FYS	0.2																			●	●				●													
			110304R-FYS	0.4																			●	●				●													
			110304L-FYS	0.4																			●	●				●													
			110308R-FYS	0.8																			●	●				●													
			110308L-FYS	0.8																			●	●				●													
	FYS		VBET 1103003R-FYS New	0.03																								●													
	15°		1103003L-FYS New	0.03																								●													
			110301R-FYS New	0.1																								●													
			110301L-FYS New	0.1																								●													
			110302R-FYS New	0.2																								●													
			110302L-FYS New	0.2																								●													
			110304R-FYS New	0.4																								●													
			110304L-FYS New	0.4																								●													
			110308R-FYS New	0.8																								●													
			110308L-FYS New	0.8																								●													
	FY		VBGT 110301R-FY	0.1																			●	●				●	●	●			●	●							
	15°		110301L-FY	0.1																			●	●				●	●	●			●	●							
			110302R-FY	0.2																			●	●				●	●	●			●	●							
			110302L-FY	0.2																			●	●				●	●	●			●	●							
			110304R-FY	0.4																			●	●				●	●	●			●	●							
			110304L-FY	0.4																			●	●				●	●	●			●	●							

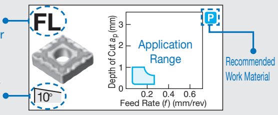
○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

35° Diamond Type Positive Inserts

VB — 35° Diamond Type 5° Pos. With Hole



Information in "Shape" column



VB■■1103●●

Dimensions (mm)				
	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

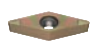
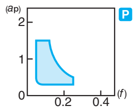
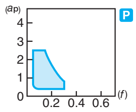
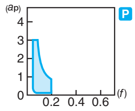
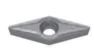
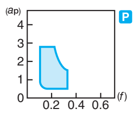
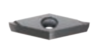
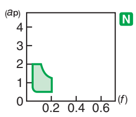
SUMIBORON (CBN) Inserts ☞ L98, L99

Applicable Internal Holders ☞ E37, E39, E40, E42, E43, E45, E46

● : Continuous Cutting 1st Recommendation / ○ : Continuous Cutting 2nd Recommendation
◐ : General Cutting 1st Recommendation / ◌ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation / ✧ : Interrupted Cutting 2nd Recommendation

[Symbols in the table below: ◐ = general cutting 1st, ◌ = general cutting 2nd, ✖ = interrupted cutting 1st, ✧ = interrupted cutting 2nd recommendation]

Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
P Steel	●	◌	◐	✖	○	◌	✧		◌			◌									✧		✧	◐			◐	✖	✧	●	◐							
M Stainless Steel				✧			✧	●	◐	✖	○	◌									✧		✧	◐	✧													
K Cast Iron			✧			✧							●	◐	✖	○	◌			✧		✧		◐						●								
N Non-Ferrous Metal																																						◐
S Exotic Alloy																			●	◐	✖	◌	✧	✧														
H Hardened Steel																		●																				

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB  15°	 P	VBMT 110302N-LB	0.2			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			110304N-LB	0.4			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			110308N-LB	0.8			●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
	SU  8°	 P	VBMT 110302N-SU	0.2																		—	○	●	●			—	●	—												
			110304N-SU	0.4			●							●	▲	●						—	○	●	●			—	●	—		●	▲									
			110308N-SU	0.8			●					●	●	●	▲	●						—	○	●	●			—	●	—	—	—	—	—	—							—
	SI  15°	 P	VBGT 110301MN-SI	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●	●	●							—	—	—	—	—	—	
			110302MN-SI	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●	●	●							—	—	—	—	—	—	
			110304MN-SI	< 0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●	●	●							—	—	—	—	—	—	
			110308MN-SI	< 0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●	●	●							—	—	—	—	—	—	
Light to Medium Cutting	GU  8°	 P	VBMT 110304N-GU New	0.4	●	○	●	●				●	●	●								—						—		—	●	●			●							
			110308N-GU New	0.8	●	○	●	●				●	●	●								—						—		—	●	●			●							
For Aluminum	AY  15°	 N	VBGT 110301R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110301L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110302R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110302L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110304R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110304L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

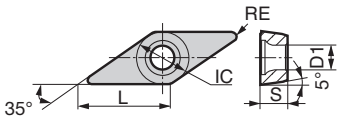
Values for corner radius RE prefixed with "<" indicate negative tolerances.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

35° Diamond Type Positive Inserts

Indexable Insert

VB 35° Diamond Type / 5° Pos. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

● : Continuous Cutting 1st Recommendation ○ : Continuous Cutting 2nd Recommendation
● : General Cutting 1st Recommendation ○ : General Cutting 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation ✖ : Interrupted Cutting 2nd Recommendation

VB■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts ☞ L100, L101

Applicable Internal Holders ☞ E14, E37, E39, E42, E45

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC750	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**	(ap) 2 1 0 0.2 0.4 (f) P	**VBMT 160404N-FB**	0.4																								●		●	●	▲	●	●							
		20°	**160408N-FB**	0.8																								●		●	●	▲	●	●							
	LU	(ap) 2 1 0 0.2 0.4 (f) P	**VBMT 160404N-LU**	0.4	●	○	●		●	●			●	●		●												●		●	●	▲	●	●							
		15°	**160408N-LU**	0.8	●	○	●		●	●			●	●		●												●		●	●	▲	●	●							
	FX	(ap) 2 1 0 0.2 0.4 (f) P	**VBGT 160402R-FX**	0.2																													●	●							
		15°	**160402L-FX**	0.2																													●	●							
			160404R-FX	0.4																													●	●							
			160404L-FX	0.4																													●	●							
Light Cutting	**LB**	(ap) 2 1 0 0.2 0.4 (f) P	**VBMT 160404N-LB**	0.4			●	●		●	●	●	●	●																●	●	▲		●						
		15°	**160408N-LB**	0.8			●	●		●	●	●	●	●																●	●	▲		●						
			160412N-LB	1.2			●	●		●	●	●	●	●																●	●	▲		●						
	SU	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**VBMT 160404N-SU**	0.4	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●						●	●	▲	●	●						
		8°	**160408N-SU**	0.8	●	○	●	●	●	●	●	●	●	●	▲	●							○	●	●						●	●	▲	●	●						
			160412N-SU	1.2	●	○	●			●																															
	SI	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**VBGT 160401MN-SI**	< 0.1																			●	●	●	●	●	●												
		15°	**160402MN-SI**	< 0.2																			●	●	●	●	●	●												
			160404MN-SI	< 0.4																			●	●	●	●	●	●												
			160408MN-SI	< 0.8																			●	●	●	●	●	●												
Light to Medium Cutting			**VBMW 160404**	0.4													●	●	●	▲	▲																			
			160408	0.8													●	●	●	▲	▲																			
	GU	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**VBMT 160404N-GU** New	0.4	●	○	●	●				●	●	●																●	●			●						
		8°	**160408N-GU** New	0.8	●	○	●	●				●	●	●																●	●			●						
For Aluminum	**AY**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	**VBGT 160402R-AY**	0.2																																				●
		15°	**160402L-AY**	0.2																																				●
			160404R-AY	0.4																																				●
			160404L-AY	0.4																																				●

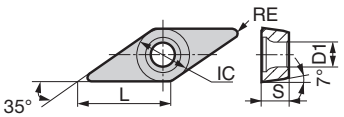
Values for corner radius RE prefixed with "<" indicate negative tolerances.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

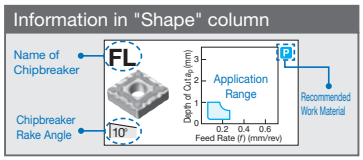
35° Diamond Type Positive Inserts

Indexable Insert

VC 35° Diamond Type / 7° Pos. / With Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

VC■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.3	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.3

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L102 | SUMIDIA BINDERLESS Inserts M28

Applicable Internal Holders E38, E41, E44, E47

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB** 20°		VCMT 080202N-FB	0.2																								●	●	●	▲	●	●						
			080204N-FB	0.4																								●	●	●	▲	●	●						
	FC 15°		VCGT 080204MN-FC	< 0.4																			●	●		●	●	●	●											
Light Cutting	**LB** 15°		VCMT 080202N-LB	0.2			●	●		●	●	●	●	●								—					—		—	●	●	▲		●						
			080204N-LB	0.4			●	●		●	●	●	●	●								—					—		—	●	●	▲		●						
	SU 8°		VCMT 080204N-SU	0.4								●	●	●		●						—	○	●	●				●	—	—	—	—	—	—						—

Values for corner radius RE prefixed with "<" indicate negative tolerances.

VC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L103 | SUMIDIA (PCD) Inserts M22 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C38, C39, D15, D28 | Applicable Internal Holders E41, E44, E47

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FC** 15°		VCGT 110301MN-FC	< 0.1																			●	●		●	●	●	●					●	●					
			110302MN-FC	< 0.2																			●	●		●	●	●	●					●	●					
			110304MN-FC	< 0.4																			●	●		●	●	●	●					●	●					
	FX 15°		VCGT 110301R-FX	0.1																			●	●		●	●	●						●	●					
			110301L-FX	0.1																			●	●		●	●	●						●	●					
			110302R-FX	0.2																			●	●		●	●	●						●	●					
			110302L-FX	0.2																			●	●		●	●	●						●	●					
			110304R-FX	0.4																			●	●			●	●												
			110304L-FX	0.4																			●	●			●	●												
	FX 15°		VCET 1103008R-FX	0.08																							●		●											
			1103008L-FX	0.08																							●		●											
			110301R-FX	0.1																							●		●											
			110301L-FX	0.1																							●		●											
			1103018R-FX	0.18																							●		●											
			1103018L-FX	0.18																							●		●											
	FY 15°		VCGT 110301R-FY	0.1																			●	●		●	●	●												
			110301L-FY	0.1																			●	●		●	●	●												
			110302R-FY	0.2																			●	●		●	●	●												
			110302L-FY	0.2																			●	●		●	●	●												
			110304R-FY	0.4																			●	●			●	●												
			110304L-FY	0.4																			●	●			●	●												

Values for corner radius RE prefixed with "<" indicate negative tolerances.

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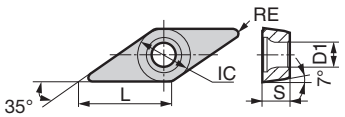
35° Diamond Type Positive Inserts

Indexable Insert

VC 35° Diamond Type 7° Pos. With Hole



Grade Selection A2, A3

Chipbreaker Selection B10 on

Insert Grade Selection by Work Material A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

VC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L103 | SUMIDIA (PCD) Inserts M22 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C38, C39, D15, D28 | Applicable Internal Holders E41, E44, E47

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FY**	P	VCET 1103008R-FY	0.08																							●		●											
			1103008L-FY	0.08																							●		●											
			110301R-FY	0.1																							●		●											
			110301L-FY	0.1																							●		●											
			1103018R-FY	0.18																							●		●											
			1103018L-FY	0.18																							●		●											
Light Cutting	**SU**	P	VCMT 110302N-SU	0.2								●	●	●		●						○	●	●																
			110304N-SU	0.4			●					●	●	●		●						○	●	●																
			110308N-SU	0.8			●					●	●	●		●						○	●	●																
	SI	P	VCGT 110301MN-SI	< 0.1											▲	●							●	●	●	●	●	●		●	●		●	●						
			110302MN-SI	< 0.2											▲	●							●	●	●	●	●	●		●	●		●	●						
			110304MN-SI	< 0.4											▲	●							●	●	●	●	●	●		●	●		●	●						
			110308MN-SI	< 0.8											▲	●							●	●	●	●	●	●		●	●		●	●						
For Aluminum	**AG**	N	VCGT 110302N-AG	0.2																																				●
			110304N-AG	0.4																																				●

Values for corner radius RE prefixed with "<" indicate negative tolerances.

VC■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L104 | SUMIDIA (PCD) Inserts M22, M23 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C38, C39 | Applicable Internal Holders E41, E44

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																				Coated Cermet		Cermet	Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**	P	VCMT 160404N-FB	0.4																							●		●	●	▲	●	●							
			160408N-FB	0.8																							●		●	●	▲	●	●							
	LU	P	VCMT 160404N-LU	0.4	●	○	●		●	●			●	●		●														●	●	▲	●	●							
			160408N-LU	0.8	●	○	●		●	●			●	●		●														●	●	▲	●	●							
Light Cutting	**LB**	P	VCMT 160404N-LB	0.4			●	●		●	●	●	●	●																●	●	▲		●							
			160408N-LB	0.8			●	●		●	●	●	●	●																●	●	▲		●							
	SU	P	VCMT 160404N-SU	0.4	●	○	●	●	●	●	●	●	●	●	▲	●						○	●	●		●		●												
			160408N-SU	0.8	●	○	●	●	●	●	●	●	●	●	▲	●						○	●	●		●		●												
	SI	P	VCGT 160401MN-SI	< 0.1											▲	●							●	●	●	●	●	●		●	●		●	●						
			160402MN-SI	< 0.2											▲	●							●	●	●	●	●	●		●	●		●	●						
			160404MN-SI	< 0.4											▲	●							●	●	●	●	●	●		●	●		●	●						
			160408MN-SI	< 0.8											▲	●							●	●	●	●	●	●		●	●		●	●						

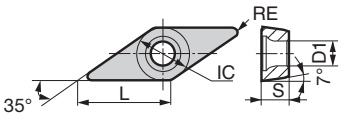
Values for corner radius RE prefixed with "<" indicate negative tolerances.

○ mark: Stock or planned stock item (please confirm stock availability) ▲ mark: To be replaced by a new product, made to order, or discontinued (please confirm stock availability).

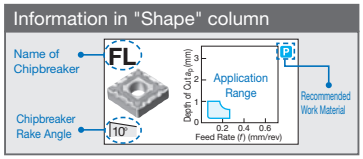
35° Diamond Type Positive Inserts

Indexable Insert

VC 35° Diamond Type / 7° Pos. / With Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation ○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✖: Interrupted Cutting 2nd Recommendation

VC■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

SUMIBORON (CBN) Inserts L104 · SUMIDIA (PCD) Inserts M22, M23
SUMIDIA BINDERLESS Inserts M28 · Applicable External Holders C38, C39
Applicable Internal Holders E41, E44

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**GU**	P	VCMT 160404N-GU New	0.4	●	○	●	●				●	●	●								—			●															
			160408N-GU New	0.8	●	○	●	●				●	●	●								—			●															
For Aluminum	**AW**		VCGT 160408N-AW	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160412N-AW	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AG	N	VCGT 160408N-AG	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160412N-AG	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

VC■■2205●●

Dimensions (mm)	Cutting Edge Length L	20.2	Thickness S	5.56
	Inscribed Circle IC	12.7	Hole Dia. D1	5.5

Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

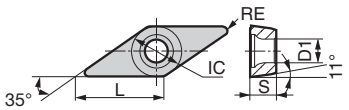
SUMIDIA (PCD) Inserts M23
Applicable External Holders C43

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																					Coated Cermet			Cermet		Cemented Carbide					
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	**AW**		VCGT 220510N-AW	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			220516N-AW	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			220520N-AW	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			220530N-AW	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AG	N	VCGT 220530N-AG	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

○ mark: Stock or planned stock (please confirm stock availability)

35° Diamond Type Positive Inserts

VP 35° Diamond Type / 11° Pos. / With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✪: Interrupted Cutting 2nd Recommendation

VP■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.3	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	T1000A	Cermet: T1500A	ST10P	Cemented Carbide: ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		VPET 0802008R-FX	0.08																									●	●													
			0802008L-FX	0.08																									●	●													
			0802015R-FX	0.15																									●	●													
			0802015L-FX	0.15																									●	●													
			0802018R-FX	0.18																									●	●													
			0802018L-FX	0.18																									●	●													
	FY		VPET 0802008R-FY	0.08																									●	●													
			0802008L-FY	0.08																									●	●													
			0802015R-FY	0.15																									●	●													
			0802015L-FY	0.15																									●	●													
			0802018R-FY	0.18																									●	●													
			0802018L-FY	0.18																									●	●													

VP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Applicable External Holders ☞ D15, D29

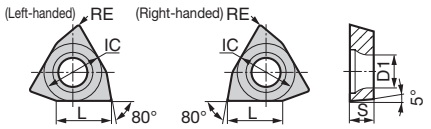
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: T1500Z	T2500Z	T3000Z	T1000A	Cermet: T1500A	ST10P	Cemented Carbide: ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		VPGT 110301R-FX	0.1																									●	●													
			110301L-FX	0.1																									●	●													
			110302R-FX	0.2																									●	●													
			110302L-FX	0.2																									●	●													
	FX		VPET 1103003R-FX	0.03																									●	●													
			1103003L-FX	0.03																									●	●													
			110301R-FX	0.1																									●	●													
			110301L-FX	0.1																									●	●													
			110302R-FX	0.2																									●	●													
			110302L-FX	0.2																									●	●													
	FY		VPGT 110301R-FY	0.1																																							
			110301L-FY	0.1																																							
			110302R-FY	0.2																																							
			110302L-FY	0.2																																							
	FY		VPET 1103003R-FY	0.03																									●	●													
			1103003L-FY	0.03																									●	●													
			110301R-FY	0.1																									●	●													
			110301L-FY	0.1																									●	●													
			110302R-FY	0.2																									●	●													
			110302L-FY	0.2																									●	●													

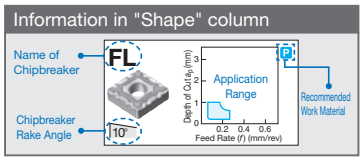
Trigon Type Positive Inserts

Indexable Insert

WB Trigon Type 5° Pos. With Hole



*Uneven Trigon Type



●: Continuous Cutting 1st Recommendation
○: Continuous Cutting 2nd Recommendation
●: General Cutting 1st Recommendation
○: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation
✖: Interrupted Cutting 2nd Recommendation

WB■■0601●●

Dimensions (mm)	Cutting Edge Length L	3.2	Thickness S	1.59
	Inscribed Circle IC	3.97	Hole Dia. D1	2.2

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L107 SUMIDIA (PCD) Inserts M24

Applicable Internal Holders E54

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC5510U	AC520U	AC1030U	AC530U	AC6150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW 20° *1		WBGT 060102R-FW	0.2																										●	●		●								
			060102L-FW	0.2																										●	●		●								
			060104R-FW	0.4																										●	●		●								
			060104L-FW	0.4																										●	●		●								
	FX 15° *1		WBGT 060102R-FX	0.2																				●	●			●	●												
			060102L-FX	0.2																				●	●	●		●	●												
			060104R-FX	0.4																				●	●			●	●												
			060104L-FX	0.4																				●	●	●		●	●												
	FY 15° *1		WBGT 0601003L-FY	0.03																														●							
			060101R-FY	0.1																														●							
			060101L-FY	0.1																														●							
			060102R-FY	0.2																				●	●			●	●					●	●						
			060102L-FY	0.2																				●	●			●	●					●	●						
			060104R-FY	0.4																				●	●			●	●					●	●						
			060104L-FY	0.4																				●	●			●	●					●	●						
Finishing to Light Cutting	W 0° *1		WBGT 060102R-W	0.2																														●	●						
			060102L-W	0.2																														●	●						
			060104R-W	0.4																														●	●						
			060104L-W	0.4																														●	●						

*1: Photo shows left-handed.

WB■■0802●●

Dimensions (mm)	Cutting Edge Length L	4.6	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

SUMIBORON (CBN) Inserts L107

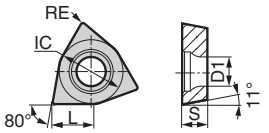
Applicable Internal Holders E54

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC5510U	AC520U	AC1030U	AC530U	AC6150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW 15° *1		WBGT 080202R-FW	0.2																										●	●		●								
			080202L-FW	0.2																										●	●		●								
			080204R-FW	0.4																										●	●		●								
			080204L-FW	0.4																										●	●		●								
	FX 15° *1		WBGT 080202R-FX	0.2																				●	●			●	●												
			080202L-FX	0.2																				●	●			●	●												
			080204R-FX	0.4																				●	●			●	●												
			080204L-FX	0.4																				●	●			●	●												
	FY 15° *1		WBGT 080201R-FY	0.1																														●	●						
			080201L-FY	0.1																														●	●						
			080202R-FY	0.2																														●	●						
			080202L-FY	0.2																														●	●						
			080204R-FY	0.4																														●	●						
			080204L-FY	0.4																														●	●						

*1: Photo shows left-handed.

Trigon Type Positive Inserts

WP Trigon Type 11° Pos. With Hole



Grade Selection ☞ A2, A3

Chipbreaker Selection ☞ B10 on

Insert Grade Selection by Work Material ☞ A10 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Cutting 1st Recommendation ◔: General Cutting 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✱: Interrupted Cutting 2nd Recommendation

WP■■1102●●

Dimensions (mm)	Cutting Edge Length L	4.3	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Applicable Internal Holders ☞ E55

Recommended Application		Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	◕	✖	○	◔	✱	✱	◔	●	◕	✖	○	◔	●	◕	✖	○	◔	✱	✱	◔	●	◕	✖	✱	●	◕	✖	✱	●	◕							
M	Stainless Steel			✱	✱		✱		●	◕	✖	○	◔								✱	✱	◔		◕	✱	✱												
K	Cast Iron			✱			✱							●	◕	✖	○	◔			✱		✱		◕						●								
N	Non-Ferrous Metal																																					◕
S	Exotic Alloy																		●	◕	✖	○	◔	✱	✱													
H	Hardened Steel																	●																				

	Shape	Application Range	Cat. No.	Corner Radius RE																																				
Light Cutting	LB	(ap) 2 1 0 0.2 0.4 (f) P	WPMT 110204N-LB	0.4			●	●		●	●	●	●	●													—	—	●	●	▲		●							

WP■■1603●●

Dimensions (mm)	Cutting Edge Length L	6.5	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Applicable Internal Holders ☞ E55

Recommended Application		Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide						
		AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	Steel	●	◔	◕	✖	○	◔	✱	✱	◔	●	◕	✖	○	◔	●	◕	✖	○	◔	✱	✱	◔	●	◕	✖	✱	●	◕	✖	✱	●	◕							
M	Stainless Steel			✱	✱		✱		●	◕	✖	○	◔								✱	✱	◔		◕	✱	✱												
K	Cast Iron			✱			✱							●	◕	✖	○	◔			✱		✱		◕						●								
N	Non-Ferrous Metal																																					◕
S	Exotic Alloy																		●	◕	✖	○	◔	✱	✱													
H	Hardened Steel																	●																				

	Shape	Application Range	Cat. No.	Corner Radius RE																																				
Light Cutting	LB	(ap) 2 1 0 0.2 0.4 (f) P	WPMT 160308N-LB	0.8			●	●		●	●	●	●	●													—	—	●	●	▲		●							

Ceramic Inserts

Neg. With Hole

(Legend)

Continuous Cutting	● 1st Recommendation ○ 2nd Recommendation
General Cutting	● 1st Recommendation ◔ 2nd Recommendation
Interrupted Cutting	✖ 1st Recommendation ✪ 2nd Recommendation

Recommended Application		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-Ferrous Metal	
S	Exotic Alloy	◔
H	Hardened Steel	○

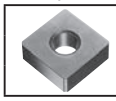
80° Diamond Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	CNGA 120404	—	●	●	12.70	4.76	0.4	5.16
	CNGA 120408	—	●	●			0.8	
	CNGA 120412	—	●	●			1.2	

55° Diamond Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	DNGA 150404	—		●	12.70	4.76	0.4	5.16
	DNGA 150408	—		●			0.8	
	DNGA 150412	—		●			1.2	

Square Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	SNGA 120404	—		●	12.70	4.76	0.4	5.16
	SNGA 120408	—		●			0.8	
	SNGA 120412	—		●			1.2	

Triangular Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	TNGA 160404	—		●	9.525	4.76	0.4	3.81
	TNGA 160408	—	●	●			0.8	
	TNGA 160412	—		—			1.2	
	TNGA 160416	—		—			1.6	

35° Diamond Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	VNGA 160404	—		●	9.525	4.76	0.4	3.81
	VNGA 160408	—		●			0.8	

Neg. Without Hole

(Legend)

Continuous Cutting	● 1st Recommendation ○ 2nd Recommendation
General Cutting	● 1st Recommendation ◔ 2nd Recommendation
Interrupted Cutting	✖ 1st Recommendation ✪ 2nd Recommendation

Recommended Application		
P	Steel	
M	Stainless Steel	
K	Cast Iron	
N	Non-Ferrous Metal	
S	Exotic Alloy	◔
H	Hardened Steel	○

80° Diamond Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	CNGN 120408	●	●	—	12.70	4.76	0.8	—
	CNGN 120412		●	—			1.2	
	CNGN 120416	●		—			1.6	
	CNGN 120712			—	12.70	7.94	1.2	

55° Diamond Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	DNGN 150408		●	—	12.70	4.76	0.8	—
	DNGN 150412			—			1.2	
	DNGN 150416			—			0.8	
	DNGN 150712		●	—	12.70	7.94	1.2	

75° Diamond Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	ENGN 130408			—	12.70	4.76	0.8	—
	ENGN 130412			—			1.2	
	ENGN 130708		●	—	12.70	7.94	0.8	
	ENGN 130712		●	—			1.2	

Round Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	RNGN 120400	●		—	12.70	4.76	—	—
	RNGN 120700	●	●	—		7.94	—	
	RNGN 150700			—	15.875	7.94	—	

Square Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	SNGN 120408	●	●	—	12.70	4.76	0.8	—
	SNGN 120412	●	●	—			1.2	
	SNGN 120416	●	●	—			1.6	
	SNGN 120420			—			2.0	
	SNGN 120708			—	12.70	7.94	0.8	
	SNGN 120712		●	—			1.2	
	SNGN 120716			—			1.6	
	SNGN 120720		●	—			2.0	

Triangular Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	TNGN 160404		●	—	9.525	4.76	0.4	—
	TNGN 160408	●	●	—			0.8	
	TNGN 160412	●	●	—			1.2	
	TNGN 160712	—		—		7.94	1.2	

WX120 is only sold in Japan.

Ceramic Inserts

Pos. Without Hole

(Legend)

Continuous Cutting	● 1st Recommendation ○ 2nd Recommendation
General Cutting	◕ 1st Recommendation ◔ 2nd Recommendation
Interrupted Cutting	✖ 1st Recommendation ✱ 2nd Recommendation

Recommended Application

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Metal
S	Exotic Alloy
H	Hardened Steel

◯ Round Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	RBGN 120700			—	12.70	7.94	—	—
	RBGN 150700			—	15.875	7.94	—	
	RBGN 250900			—	25.40	9.52	—	
	RBG 12S			—	12.00	11.0	—	—
	RBG 16S		●	—	16.00	13.0	—	
	RBG 20S		●	—	20.00	15.0	—	
	RBG 26S			—	26.00	16.0	—	
	RBG 32S			—	32.00	21.0	—	
	RCGX 090700	●		—	9.525	7.94	—	—
	RCGX 120700			—	12.70	7.94	—	

□ Square Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	SPGN 090308			—	9.525	3.18	0.8	—
	SPGN 120308		●	—	12.70	3.18	0.8	

△ Triangular Type

Shape	Cat. No.	Ceramic WX120	Ceramic NB90S	Ceramic NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	TPGN 110304		●	●	6.35	3.18	0.4	—
	TPGN 110308		●				0.8	
	TPGN 160304		●	●	9.525	3.18	0.4	
	TPGN 160308		●	●			0.8	

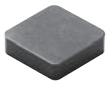
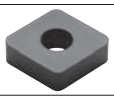
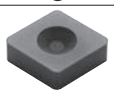
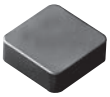
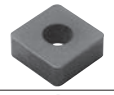
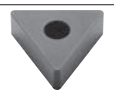
WX120 is only sold in Japan.

Solid SUMIBORON

Indexable Insert (Solid CBN Type)

Refer to pages L112 to L115 for solid SUMIBORON dedicated holders.

Applications K Cast Iron H Hardened Steel

Shape	Cat. No.	BNC8115	BNS8125	BNS800	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Y/N	Applicable Holders
	CNGN 090308	●	●	●	9.525	3.18	0.8	No	External L113
	CNGN 090308LF			●					
	CNGN 090312	●	●	●			1.2		
	CNGN 090312LF			●					
	CNGN 120408	●	●	●	12.70	4.76	0.8	No	External L113
	CNGN 120412	●	●	●			1.2		
	CNGN 120416	●	●	●			1.6		
	CNGA 120408	—	—	●	12.70	4.76	0.8	Yes	External C8 to C10 Internal E15, E23 to E25
	CNGA 120412	—	—	●			1.2		
	CNGX 120408				12.70	4.76	0.8	Dimple	External L115
	CNGX 120412	●	●	●			1.2		
	CNGX 120416	●	●	●			1.6		
	DNGN 110308	●	●	●	9.525	3.18	0.8	No	External L113
	DNGN 110308LF			●					
	DNGN 110312	●	●	●			1.2		
	DNGN 110312LF			●					
	RNGN 090300	●	●	●	9.525	3.18	—	No	External L114
	RNGN 090300LF			●					
	RNGN 120300	●	●	●	12.70	3.18	—	No	External L114
	RNGN 120300LF			●					
	RNGN 120400	●	●	●		4.76			
	SNGN 090308	●	●	●	9.525	3.18	0.8	No	External L112 Milling Cutters H210 L135
	SNGN 090308LF			●					
	SNEN 090308W	●	●	●					
	SNEN 090308LFW			●					
	SNGN 090312	●	●	●			1.2		
	SNGN 090312LF			●					
	SNGN 120308	●	●	●	12.70	3.18	0.8	No	External L112
	SNGN 120308LF			●					
	SNGN 120312	●	●	●			1.2		
	SNGN 120312LF			●					
	SNGN 120408	●	●	●	12.70	4.76	0.8	No	External L112
	SNGN 120412	●	●	●			1.2		
	SNGN 120416	●	●	●			1.6		
	SNGN 120420	●	●	●			2.0		
	SNGA 120408	—	—	●	12.70	4.76	0.8	Yes	External C19 to C24 Internal E51 to E53
	SNGA 120412	—	—	●			1.2		
	SNGX 120408				12.70	4.76	0.8	Dimple	External L115
	SNGX 120412	●	●	●			1.2		
	SNGX 120416	●	●	●			1.6		
	TNGN 110308	●	●	●	6.35	3.18	0.8	No	External L112
	TNGN 110308LF			●					
	TNGN 110312	●	●	●			1.2		
	TNGN 110312LF			●					
	TNGN 160408	●	●	●	9.525	4.76	0.8	No	External L112
	TNGN 160412	●	●	●			1.2		
	TNGN 160416	●	●	●			1.6		
	TNGN 160420	●	●	●			2.0		
	TNGA 160408	—	—	●	9.525	4.76	0.8	Yes	External C27 to C33 External D16 D20 Internal E15, E61 to E63
	TNGA 160412	—	—	●			1.2		

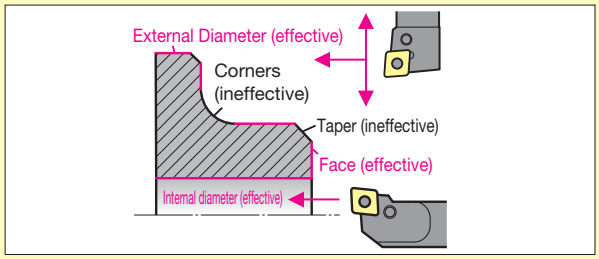
*Part number suffix: LF: Sharp edge type W: Wiper type LFW: Wiper sharp edge type

Precautions when Using Wiper Inserts

Effects of the wiper insert

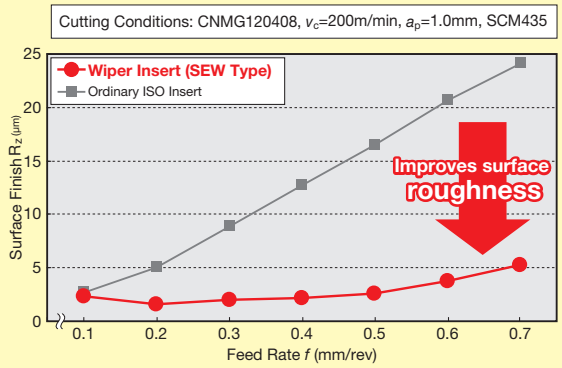
Wiper inserts are effective for external/internal diameter machining and for facing as shown in the figure below, and surface roughness of the machined surface can be maintained even in high-feed machining.

■ Effective Range of Wiper Inserts



* Note that wiper inserts leave the same machined surface roughness as normal inserts at tapers and corners.
* The cutting edge position may need to be offset depending on the insert shape. See the offset table below.

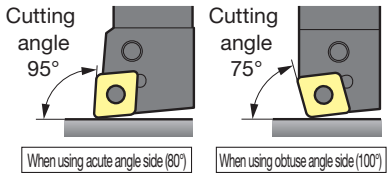
■ Machined surface roughness (actual measurements)



Coated Carbide / Coated Cermet / Cermet

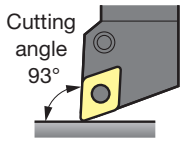
CNMG/WNMG/CCMT/CPMT Type LUW/GUW/SEW Type Chipbreaker (LUW Type chipbreaker only for CCMT/CPMT Type)

- Use a holder with a cutting angle of 95°.
- No tool compensation required.
  CNMG Type / WNMG Type / CCMT Type / CPMT Type wiper inserts follow the ISO standard, allowing use without correcting the machining program.
- The obtuse (100°) corner on the CNMG Type can also provide a wiper effect.



DNMX Type SEW Type Breakers

- Use a holder with a cutting angle of 93°.
- Tool compensation required.
  DNMX type wiper inserts do not comply with the ISO standard. Correct the machining program as explained on the opposite page (B132).

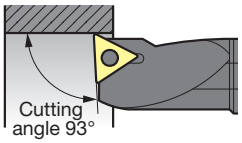


DNMX Type Tool Program Correction Guide (→B136)

TPGX Type SDW Type Breakers

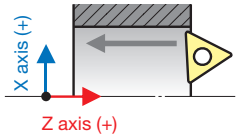
- Use a boring bar with a 93° cutting angle.
- Tool compensation required.
  TPGX type wiper inserts do not comply with the ISO standard. Correct the cutting edge position (tool offset) as explained on the right.

Note: Unlike the other profiles, the TPGX type is only effective for boring.



Cutting Edge Position Correction for TPGX Type Breaker (SDW)

Internal boring

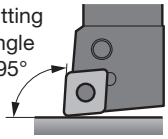


Corner Radius	X-axis direction	Z-axis direction
R0.4	0.12	-0.02
R0.8	0.12	-0.02

CBN (SUMIBORON / Coated SUMIBORON)

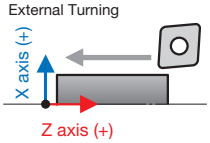
CNGA Type/CCGW Type/WNGA Type WG/WH Type Chipbreaker

- Use a holder with a cutting angle of 95°.
- Machining program modification required.
  CNGA, CCGW and WNGA Type wiper inserts do not comply with the ISO standard. Correct the cutting edge position (tool offset) as explained on the right.



Cutting Edge Position Correction for CNGA/CCGW/WNGA Type Breaker (WG/WH Type)

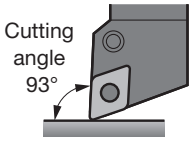
External Turning



Corner Radius	Type	X-axis direction	Z-axis direction
R0.4	WG Type	-0.02	-0.02
	WH Type	-0.06	-0.06
R0.8/R1.2	WG Type	-0.01	-0.01
	WH Type	-0.06	-0.06

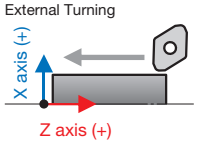
DNGA Type/DCGW Type WG/WH Type Chipbreaker

- Use a holder with a cutting angle of 93°.
- Machining program modification required.
  DNGA and DCGW type wiper inserts do not comply with the ISO standard. Correct the cutting edge position (tool offset) as explained on the right.



Cutting Edge Position Correction for DNGA/DCGW Type Breaker (WG/WH Type)

External Turning



Corner Radius	Type	X-axis direction	Z-axis direction
R0.4	WG Type	-0.17	-0.01
	WH Type	-0.70	-0.06
R0.8	WG Type	-0.05	0
	WH Type	-0.58	-0.05

Note: Unlike other contour shapes, the DNGA/DCGW Type can only exhibit wiper effect for outer and inner diameter machining, and cannot be used for facing.

Precautions when Using Wiper Inserts

Tool Program Correction Guide for DNMX Type Wiper Inserts (Compensation: mm)

(1) Cutting edge position compensation (tool offset) in X and Z axes

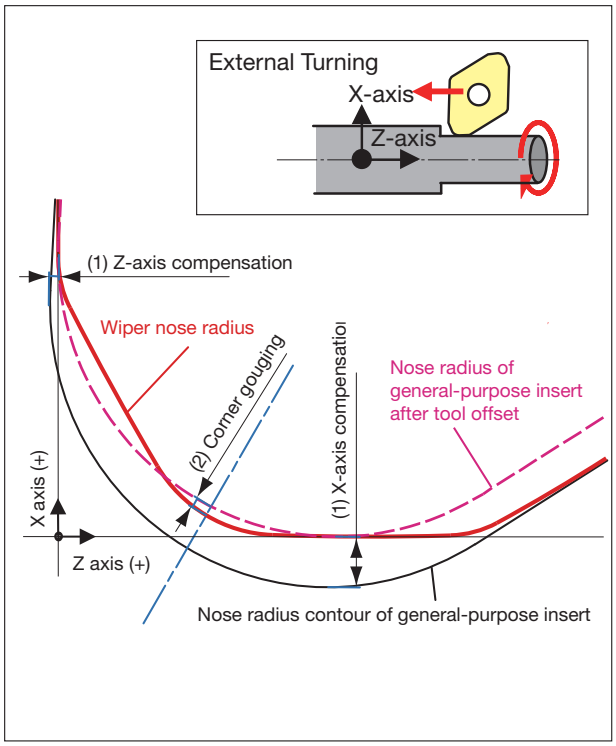
The cutting edge position for this insert differs from standard ISO inserts and therefore requires dimensional correction in the X and Z axes as shown in the table on the right.

*** The X axis compensation is positive for internal boring.**

External Turning

Nose Radius	X-axis direction	Z-axis direction
R0.4	-0.14	-0.02
R0.8	-0.14	-0.02
R1.2	-0.1	-0.03

● Insert Nose Radius Diagram

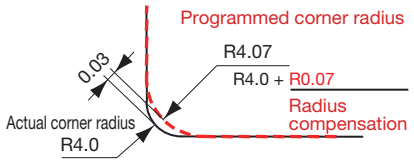


(2) Tool compensation for corners (based on compensation in step (1))

The programmed tool path must be corrected to prevent the insert from gouging into the workpiece's corner radius.

Programmed corner radius = actual corner radius + radius compensation

Example) To machine an R4.0 corner (using an R0.8 nose)



Nose Radius	Gouging	Radius compensation
R0.4	0.02	+R0.04
R0.8	**0.03**	**+R0.07**
R1.2	0.08	+R0.18

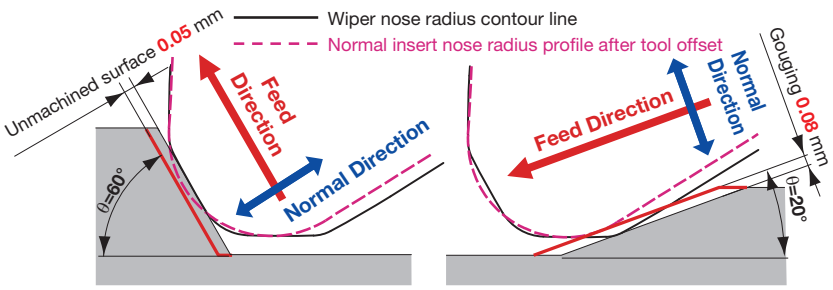
(3) Tool compensation for tapers (based on compensation in step (1))

When machining tapers, the programmed tool path may leave gouged or unmachined surfaces.
Make corrections in the normal direction as shown below.

Compensation + indicates gouging
Compensation - indicates unmachined surfaces.

Nose Radius	Taper Angle (θ)				
	-25°	**-20°**	-15°	-10°	-5°
R0.4	0.08	0.07	0.05	0.04	0.02
R0.8	0.09	**0.08**	0.06	0.05	0.02
R1.2	0.05	0.05	0.05	0.03	0.02

Example) To machine a 60°/-20° taper angle (θ) with a R0.8 nose radius



Nose Radius	Taper Angle (θ)																		
	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	**60°**	65°	70°	75°	80°	85°	90°
R0.4	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.03	-0.03	-0.04	-0.05	-0.05	-0.05	-0.03	-0.02	-0.02	-0.01	0.00
R0.8	0.00	0.01	0.02	0.03	0.03	0.03	0.03	0.02	0.01	0.00	-0.02	-0.03	**-0.05**	-0.04	-0.03	-0.02	-0.01	0.00	0.00
R1.2	0.00	0.02	0.04	0.06	0.07	0.08	0.08	0.07	0.06	0.05	0.03	0.00	-0.03	-0.02	-0.01	0.00	0.01	0.00	0.00