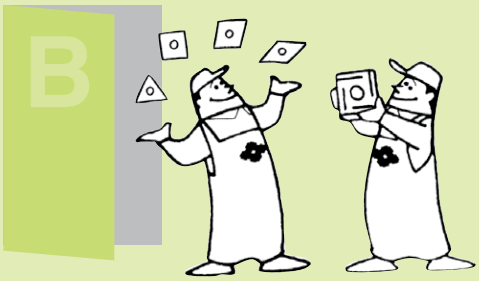
Indexable Inserts B

Negative / Positive Inserts / Ceramic B1 to B128



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Negative Insert
C / 80° Diamond Type (With Hole) ····· B20
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D / 55° Diamond Type (With Hole) ····· B30
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V / 35° Diamond Type (With Hole) ····· B64
W / Hexagon Type (With Hole) ····· B67

Positive Insert
C / 80° Diamond Type (With Hole) ····· B71
D / 55° Diamond Type (With Hole) ····· B82
R / Round Type (With Hole) ····· B89
R / Round Type (No Hole) ····· B91
S / Square Type (With Hole) ····· B92
S / Square Type (No Hole) ····· B98
T / Triangular Type (With Hole) ····· B102
T / Triangular Type (No Hole) ····· B112
V / 35° Diamond Type (With Hole) ····· B117
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Ceramic Positive Insert (No Hole) ····· B127
Solid CBN ····· B128

Structure of Indexable Inserts Section

(1) Descriptions of turning inserts are given first for 'negative type' and then for 'positive type'.
(2) The order of descriptions 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) Descriptions of inserts with the same relief angle are placed in the order of those with holes first and then those without holes.
(4) Inserts are grouped by the shape, and in each group they are further divided by the size (according to the combination of cutting edge length and thickness and in the order of small to large).

● Insert section structure diagram

	(Shape → Relief Angle)	(Insert Hole)	(Order of appearance)
Negative	C (80° Diamond)	With Hole	By size(Small to Large)
		No Hole	By size(Small to Large)
Positive	D (55° Diamond)	With Hole	By size(Small to Large)
		No Hole	By size(Small to Large)

Symbols in Insert Drawings

* Symbols used in insert drawings conform to the new JIS and the Japan Cemented Carbide Tool Manufacturers' Association's unified quantifiers.

ℓ : Cutting Edge Length, $\varnothing d$: Inscribed Circle, s : Thickness, r_ε : Nose Radius, $\varnothing d_1$: Hole (For SUMIBORON and SUMIDIA, ℓ stands for side length.)

Handed Inserts

* In principle, photos of handed inserts show right-handed inserts.

A left-handed insert is only shown in cases where there is a note on the photo stating such.

Descriptions of Insert Grades

① For inserts, we have carefully selected the best of our coated carbide (CVD, PVD), cermet, uncoated carbide and ceramic grades.
② The descriptions SUMIBORON and SUMIDIA are provided only in the sections dedicated to them: SUMIBORON on page L28 and further and SUMIDIA on page M8 and further.

Specify the requirements for the following items when ordering.

① Insert Cat. No. ② Grade ③ Quantity

For recommended conditions and details on how to select inserts, see Chapter A.

Stock Indications and Symbols

●● mark : Standard stocked item
● mark : To be replaced with the new item featured on the same page
▲ mark : To be replaced by new item (Please confirm stock availability)
* mark : Semi-standard stock (Please confirm stock availability)
○○ mark : Stock or planned stock(Please confirm stock availability)
No mark : Made-to-order item
— mark : We cannot produce

Indexable Insert Identification Table

(Ex.)

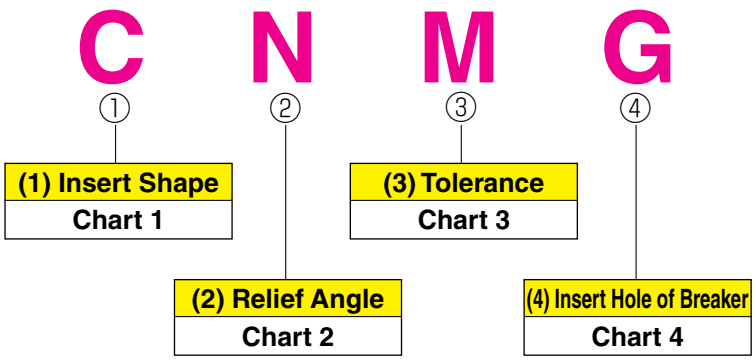


Chart 1: Insert Shape

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

Chart 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

★ Inserts with a 10˚ relief angle are sometimes considered as "P"

Chart 3: Tolerance (mm)

Symbol	Nose Height (mm)	Inscribed Circle (mm)	Thickness (mm)
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

★ Generally, these inserts have unground side faces

Chart 4: Insert Hole of Breaker

Symbol	Hole	Hole Style	Chip-breaker	Shape	Symbol	Hole	Hole Style	Chip-breaker	Shape
N	No Hole	—	Nil		A	With Hole	Straight Hole	Nil	
R			One Face		M			One Face	
F			Both Faces		G			Both Faces	
W	With Hole	Straight hole with top end counter-sink (40˚ to 60˚)	Nil		B	With Hole	Straight hole with top end counter-sink (70˚ to 90˚)	Nil	
T			One Face		H			One Face	
Q	With Hole	Straight hole with top and bottom counter-sink (40˚ to 60˚)	Nil		C	With Hole	Straight hole with top and bottom counter-sink (70˚ to 90˚)	Nil	
U			Both Faces		J			Both Faces	
					X	—	—	—	Special

● Tolerance of Nose Height (M-Class) (mm)

Inscribed Circle	Triangle	Square	80˚Diamond	55˚Diamond	35˚Diamond	Round
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	—	—	—	—

● Tolerance of Inscribed Circle (M-Class) (mm)

Inscribed Circle	Triangle	Square	80˚Diamond	55˚Diamond	35˚Diamond	Round
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

12 04 08 N - GE

⑤ (5) Cutting Edge Length — Chart 5

⑥ (6) Thickness — Chart 6

⑦ (7) Nose Radius — Chart 7

⑧ (8) Feed Direction — Chart 8

⑨ (9) Chipbreaker — Chart 9

Picture of insert shown as example

Chart 5: Cutting Edge Length (mm) (Representative example) Note: Cutting edge dimensions are for sharp edge type inserts.

Shape	Symbol	Cutting Edge (mm)	Inscribed Circle	Shape	Symbol	Cutting Edge (mm)	Inscribed Circle	Shape	Symbol	Cutting Edge (mm)	Inscribed Circle
C 80°Diamond	03	3.55	3.50	D 55°Diamond	07	7.7	6.35	W Trigon	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	9.525
	09	9.7	9.525		19	19.4	15.875		08	8.7	12.70
	12	12.9	12.70						10	10.9	15.875
	16	16.1	15.875	V 35°Diamond	08	8.3	4.76				
	19	19.3	19.05		09	9.7	5.56				
	25	25.8	25.4		11	11.1	6.35				
					16	16.6	9.525				
					22	22.1	12.7				
S Square	06	6.35	6.35	T Triangle	06	6.9	3.97	R Round	08	8.0	8.0
	S7	7.14	7.14		08	8.2	4.76		10	10.0	10.0
	07	7.94	7.94		09	9.6	5.56		12	12.0	12.0
	09	9.525	9.525		11	11.0	6.35		12	12.70	12.70
	12	12.70	12.70		16	16.5	9.525		15	15.875	15.875
	15	15.875	15.875		22	22.0	12.70		16	16.0	16.0
	19	19.05	19.05		27	27.5	15.875		19	19.05	19.05
	25	25.40	25.40		33	33.0	19.05		25	25.0	25.0
	31	31.75	31.75						25	25.40	25.40

Chart 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

(*)
CCET03X1 Insert thickness: 1.40
CCET04X1 Insert thickness: 1.80

Chart 7: Nose Radius

Symbol	Nose Radius (mm)
00	Sharp Point
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
24	2.4
M0	Round Insert (Metric)
00	Round Insert (Imperial)
00	Non-arc-shaped Insert

An "M" after the nose radius indicates a negative tolerance

Chart 8: Feed Direction

Symbol	Direction
R	Right hand
L	Left hand
N	Neutral

Chart 9: Chipbreaker

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

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

Grade Comparison Chart

■ Coated Carbide

Application	Class	Grade	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Hitachi	Sandvik	Kennametal	Dijet	Valenite	SECO Tools Japan	WALTER	ISCAR
Turning	P Steel	P05	**AC810P**	UE6105	T9105	CA510 CA5505	HG8010	GC4205	KCP05 KC9105	JC110V	VP5515 VP1510	TP0500	WPP05	IC8005 IC428
		P10	**AC810P** **AC820P**	UE6110	T9115	CA515 CA5515	HG8010	GC4315 GC4215	KCP10 KC9110	JC110V JC215V	SV310 SV315 SV515	TP1500	WPP10S WPP10	IC8150 IC9015
		P20	**AC820P**	MC6025 UE6020	T9125	CA525 CA5525	IP2000 HG8025 GM25	GC4325 GC4225	KCP25 KC9125	JC215V	SV315 SV325 VP5525	TP2500	WPP20S WPP20	IC8250 IC9015
		P30	**AC830P** **AC630M**	UE6035 VP15TF	T9135	CA530 CA5535	IP3000 GM8035	GC4235	KCP30 KC9140	JC215V JC325V	VP5535 SV325 SV230	TP3500	WPP30S WPP30	IC8350 IC8025
		P40	**AC830P** **AC630M**	UE6035 UH6400	T9135	PR660	IP3000 GM8035	GC4235	KC9140	JC325V JC450V	SV235 V1N VP5535	TP3500	WTN53	IC8350 IC8025
	M Stainless Steel S Exotic Alloy	M10 S10	**AC610M** **AC510U**	MC7015 US7020 MP9005 US905 VP05RT VP10RT	T9115 AH110 AH905	CA6515 PR915 PR1025 PR1215 PR1225	IP050S IP100S	GC2015 GC1105 GC1115	KCM15 KC5510 KCU10	JC605X JC5003 JC110V	SV310 SV315 VC929	TP1500 TS2000	WSM10	IC807 IC8025 IC907
		M20 S20	**AC6030M** **AC610M** **AC520U**	MC7025 US7020 MP9015 VP20MF UP20M	T6120 T6020 T9125 AH630 AH120 AH725	CA6525 PR915 PR930 PR1025 PR1125 PR1215 PR1225	IP100S HG8025	GC2025 GC1125	KCM25 KC5525 KCU25 KC5020	JC110V JC5015 JC8015 JC525X	VPS525 VC901 SV230	TP2500 TM2000 TS2500	WSM20 WMP20S	IC808 IC8080 IC908
		M30	**AC6030M** **AC6040M** **AC630M** **AC830P** **AC530U**	MC7025 MC7035 US735 VP15TF VP20MF	AH725 T6130 T6030 AH630 AH645	CA6525 PR1125	GM8035 GX30	GC2035	KCM35 KC9240	JC5015 JC8015 JC525X	VC901 V1N	TP3500 TM4000	WSM30	IC8080 IC830
		M40	**AC6040M** **AC530U**	MC7035 US735 VP15TF	AH645	PR1125	GX30	GC235			V1N	TM4000		IC830 IC928
	K Cast Iron	K05	**AC405K**	MC5005 UC5105 UC5115	T5105 T5115	CA4505 CA4010	HG3305 HX3305	GC3205	KCK05	JC105V JC050W	SV405 SV510	TK1000 TK1001	WAK10 WKK10S	IC5005
		K10	**AC415K**	MC5005 MC5015 UC5105 UC5115	T5115 T5125	CA4505 CA4515 CA4115	HX3305 HG3305 HG3315 HX3315	GC3210	KCK15	JC105V	SV410 SV515	TK1000 TK1001	WAK10 WAK20 WKK10S WKK20S	IC5010 IC5100
		K20	**AC420K**	MC5015 UC5115 VP15TF UE6110	T5125 T9125	CA4515 CA4120 CA4115	HX3315 HG3315 HG8010	GC3215	KCK20	JC215V	SV415 SV515	TK2000 TK2001	WAK20 WAK30 WKK20S	IC8150
Milling	P Steel	P10	**ACP100**	FH7020 F7030	T3130 T3030		JP4005 JP4020	GC4220 GC4230	KC715M KC930M KC935M	JC8003 JC730	V1N	T250M T350M MP1500 MP2500	WKP25 WKP25S WPP20 WKP35S	IC4100 IC520M IC4050 DT7150
		P20	**ACP200**	VP15TF VP20RT	AH9030 AH120 AH725	PR1525 PR1225 PR830	JS4045 GX2140	GC1010 GC1025 GC2040 GC4240	KTPK20 KCPM20	JC6235 JC5040 JC8015 JC5015 JC5118	VC935	MP3000 F25M F30M	WSM20	IC808 IC810 IC380
		P30	**ACP300**	VP30RT	AH3035 AH130 AH140 SH730	PR1525 PR1230	JS4060 JX1045 JX1060 CY150 CY250	GC1030 GC2030	KCPK30 KCMP30 KC725 KC730 KC735	JC5040 JC8050		MM4500 F40M	WSM30 WSM35 WSP45S WSP45	IC830 IC928 IC330
	M Stainless Steel	M10	**ACM100** **ACK300**			PR1025 PR1225	JX1020 CY9020 JP4020	GC1025 GC1030	KC522M					
		M20	**ACM200**	F7030 VP15TF VP20RT	GH330 AH330 AH120 AH130	PR1525 PR1025 PR1225	JX1015 CY150 CY15	GC2030	KC730M KC525M	JC5015 JC5030 JC5040		F25M F30M	WSM35 WXM35	IC908 IC928
		M30	**ACM300**	F7030 VP30RT MP7030	AH130 AH140	CA6535 PR1535	JX1045 JX1060 GX2160	GC2040	KC994M KC725M	JC5015 JC5030 JC5040	VC935	F30M F40M	WSM35 WXM35	IC328 IC330 IC830
	K Cast Iron	K20	**ACK200**	MC5020 F5010 F5020	T1115	PR905	JP4020	GC3220 GC3020 GC3040 K15W K20D K20W	KCK15 KCK20 KC915M KC930M KC935M	JV608X JC600 JC605W JC610 JC8003	VN5	MK1500 MK3000 T150M	WAK15 WKK25 WKP25S	IC5100 DT7150
		K30	**ACK300**	VP15TF VP20RT	AH725 AH120 AH110 AH330 GH110 GH130	PR1510 PR1210	GX2140 JS4045 JX1045 CY150 CY250	GC1010 GC1020 GC1025 GC1030	KTPK20 KCPK30 KC510M KC520M KC525M	JC6235 JC5003 JC5015 JC5080 JC8015	VC928	MK2050 MK2000 MH1000	WKP35S WPP20	IC830 IC810 IC908 IC910 IC928 IC950

Cermet

Application	Class	Grade	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Hitachi	Sandvik	Kennametal	Dijet	Valenite	SECO Tools Japan	WALTER	ISCAR
Turning	P Steel	P10	**T1000A** **T110A**	AP25N★ NX2525	GT720★ NS520	TN30 PV30★ TN6010 PV7010★	CZ25★	CT5015	KT125 HTX KT1120	LN10 CX50	VC605			IC20N IC520N
Turning	P Steel	P20	**T1500A** **T1500Z★** **T2000Z★**	AP25N★ NX2525 NX3035	NS530 GT530★ NS730 GT730★ NS9530 GT9530★	TN60 TN6020 PV60★ PV7020★ PV7025★	CH550	GC1525★	KT6215 KT315★ KT175 KT5020★	CX50 CX75	VC610	CM CMP C15M TP1020		IC30N IC530N
Turning	P Steel	P30	**T3000Z★**	NX3035 MP3025★		PV7025★ PV90★				CX90 CX99				
Turning	K Cast Iron	K10	**T1000A** **T110A**	AP25N★ NX2525	GT720★ NS520	TN30 PV30★ TN6010 PV7005★ PV7010★		CT5015	KT125 HTX	LN10 CX50	VC605			
Milling	P Steel		**T250A** **T4500A**	NX4545 VP45N★	NS540 NS740	TC60M TN100M	MZ1000★ MZ2000★ MZ3000★	CT530	KT530M★	CX90	VC630	C15M		IC30N

★ Coated Cermet Inserts

Carbide

Class	Grade	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Hitachi	Sandvik	Kennametal	Dijet	SECO Tools Japan	ISCAR
P Steel	P10	**ST10P**				WS10	S1P		SRT		
P Steel	P20	**ST20E**	UTi20T	UX30		EX35	SMA	K125M	SR20		IC07 IC50M
P Steel	P30	**A30** **A30N**	UTi20T	UX30	PW30	EX40	SM30		DX30		IC54 IC28
P Steel	P40	**ST40E**				EX45	S6		SR30		IC54 IC28
M Stainless Steel	M10	**U10E** **EH510**				WA10B	H10A	KU10,K313 K68,KYSM10	UMN	890	IC07,IC20 IC08
M Stainless Steel	M20	**U2** **EH520**	UTi20T	UX30			H13A	K313 K68	DX25 UMS	HX 883	IC07,IC20 IC08
M Stainless Steel	M30	**A30** **A30N**	UTi20T	UX30			H10F SM30		UMS UM40		IC28
K Cast Iron	K01	**H2** **H1**	HTi05T			WH01 WH05		KU10,K313 K68,K115M	KG03		IB50,IB85 IS8
K Cast Iron	K10	**H1** **EH10** **EH510**	HTi10	TH10	KW10 GW15	WH10	H13A	KU10,K313 K68,K115M K110M KY3500	KG10 KT9 CR1	890	IB50,IB85 IB55,IB90 IC20,IS8
K Cast Iron	K20	**G10E** **EH20** **EH520**	UTi20T	UX30	GW25	WH20	H13A	KMF KY3500 KYHS10	KT9 CR1 KG20	890 883 HX	IC20 IS8
K Cast Iron	K30	**G10E**	UTi20T			WH30		KY3500	KG30	883	
S Exotic Alloy	—	**EH510** **EH520**	RT9005 RT9010 MT9015 TF15	TH10 KS20	SW05,SW10 SW25,KW10 GW15	WH10	H10A H10F H13A	KU10,K313 K68,KMF K110M,KYHS10 K1025(KMF)	KG10 KG20	HX H25	ID5,IB85 IC20,IC07 IC08,IC28
Fine-grained Carbide		**F0**	SF10,MF07 MF10	F,MD1508 MD08F		NM08			FB05,FB10 FZ05		IC07
Fine-grained Carbide		**F1,AFU** **XF1**	HTi10 MF20	M,MD10 MD05F,MD07F	FW30	NM15	6UF,8UF PN90,H6FF		FZ10,FB15 FZ15	890	IC07
Fine-grained Carbide		**AF0,AF1** **SF2**	TF15 MF30	EM10,MD20 MD15		BRM20 EF20N	12UF		FB20,FZ15 FB15	890 883	IC08
Fine-grained Carbide		**A1**		UM		NM25	N6F H10F		FZ20 FB20	883	IC08

Ceramic

Class	Sumitomo Electric	Tungaloy	Kyocera	Sandvik	Kennametal	Dijet	Nippon Tungsten	NTK
H Hardened Steel	**NB100C**	WG300 LX11	A66N A65 KT66	GC6050 CC650 CC670	KY1615 KY4300	CA100	NPC-A2 WIN	HC4,HC7 ZC7,WA1
S Exotic Alloy	**WX120**	WG300	CF1	CC6060 CC6065 CC670	KY4300 KY1540	CA200	WHISKAL	WA1 SX9
K Cast Iron	**NB90S** **NB90M**	LX11,LX21 CXC73,FX105 CX710	A65,A66N KA30,KS500 KS6000,KT66	CC620,CC650 CC6090 GC1690	KY1615,KY1310 KY1320,KY3500 KY4300	CA010 CS100	NAICON-NXA NAICON-NX	HC1,HW2,HC2,HC6 HC7,WA1,SX1,SX2 SP2,SX9,SX8

(Note) The data on pages B4 and B5 was collected from the various published catalogues therefore the information may not be updated.

Grade Comparison Chart

■ CBN Layer

Class	Grade	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Hitachi	Sandvik	Kennametal	Dijet	SECO Tools Japan
K Cast Iron	K01	**BNC500** * **BN7000** **BN500**	MB710	BX930 BX870 BX910	KBN60M		CB7525 CB7925	KB1340	JBN795	
	K10	**BN7000** **BN500**	MB710 MB730	BX950	KBN900	BH200	CB7525 CB7925		JBN330	CBN200,CBN300 CBN300P,CBN400C
	K20	**BN7000** **BNS800**	MBS140	BXC90 BX90S	KBN900	BH250				CBN200,CBN300 CBN300P,CBN400C
	K30	**BNS800**		BXC90 BX90S				KB5630		CBN500
N Non-Ferrous Metal	N01	**BN700** **BN7000**								
S Exotic Alloy	S01	**BN7000**	MB730	BX470 BX480 BX950	KBN65M KBN70M			KB5630 KB1340		
H Hardened Steel	H01	**BNC2010** **BNC2020** **BNC100** **BN1000** **BN2000** **BNX10**	MBC010 MB810	BXM10 BX310	KBN05M PT600M	BH100		KB5610		CBN10 CBN100 CBN060K
	H10	**BNC2010** **BNC2020** **BNC160** **BNC200** **BN2000**	MBC020 BC8020 MB820	BXM20 BX330	KBN25M	BH150	CB7015	KB5610 KB5625	JBN300	CBN10,CBN100 CBN150,CBN060K CBN160C
	H20	**BNC2020** **BNC200** **BNX20**	MBC020 BC8020 MB825	BXC50 BX360	KBN35M KBN900	BH250	CB7025 CB20	KB5625 KB5630	JBN245	CBN150 CBN160C
	H30	**BNC300** **BN350** **BNX25**	MB835 BC8020	BX380			CB7525	KB5630		

*: For cutting ductile cast iron

■ Polycrystalline Diamond

Class	Grade	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Sandvik	Kennametal	Dijet	SECO Tools Japan
N Non-Ferrous Metal	N01	**DA1000** **DA150**	MD205	DX180 DX160	KPD001	CD05 CD10	KD1400	JDA30 JDA735	
	N10	**DA1000** **DA150**	MD205 MD220	DX140	KPD001 KPD010 KPD230	CD1810	KD1400 KD1425		PCD05 PCD10
	N20	**DA1000**	MD220 MD230	DX120	KPD230		KD1400 KD1425	JDA10 JDA715	PCD05 PCD20
	N30	**DA1000**	MD230	DX110			KD1400		PCD05 PCD30 PCD30M

(Note) The above data was collected from the various published catalogues therefore the information may not be updated.

Negative

Class	Application	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Hitachi	Sandvik	Kennametal	SECO Tools apan	WALTER	ISCAR
P Steel	Fine Finishing	**FA**	FH	TF	GP		QF	FF	FF1		SF
		FL	FS,FY	NS,ZF	XP,XF	FE				FP5	
	Finishing	**LU**	SA,SY	SS,NM	XQ,CQ	BE	LC	FN		NF3	
		SU	SH	TS,TSF,11	PP,HQ	CE,B,BH	XF,MF		MF2		NF,TF
	Wiper Edge	**LUW**		AFW	WP		WL,WP				
		SEW	SW	ASW	WQ		WF,WMX	FW	W-MF2	NF	WF
	Finishing to Light Cutting	**SE,SX**	LP	AS,ZM,27	CJ,XS	AB,CT	PF,KF	LF	MF5	MP3,NS6	F3P
	Medium	**GU**(UG)	MA,MV	TM,37	HS,PS	AH	XM,QM	P,MG	M3		HT,M4M,GN
		GE,UX	MH,MP	DM,CM	PQ,CS,GS,PT	AE,AY	PM,SM,KM	MN		MP5,NM4,NM6	
	Wiper Edge	**GUW**	MW				WM	MW	W-M3	NM	HTW,M4MW,WG
	Roughing	**MU,ME**	RP,GH	TH	HT,GT,PH	RE,AR	MG-PR,XMR,KR	RP	M5,MR7	RP5,NM7,NM9	M3P,NR
		MX	HAS,MT	CH				RN			
	Heavy	**HG**	HA,HZ,HX,HBS	THS,TU,57	PX,HX	TE,UE	MM-PR,QR	RM,MR	R4,R5,R6	NR6,NRF	NM,HR
		HP	HH,HXD	65			HR,SR	RH	R7	NR8	
		HU,HW	HV,HDS			H					
		HF	HCS	TUS		HX,HE	MR		RR9	NRR	R3P,T3P
M Stainless Steel	Finishing	**SU,EF**	LM,SH	SS	MQ,GU	SE,MP	MF	FP,FS,LF	MF2	NF4	
	Light to Medium	**EX,EG**	GM,MS	SF,SA	SU,MS,MU	PV	23	MS	MF1,M1		TF,VL
	Medium	**GU**	MM	SM	HU	DE	MM	MP	MF3,M3	NM4	M3M,PP
	Roughing	**HM**	ES,1M,2M	S	ST					NR4	
		EM,MU	RM,GH	SH	TK		MR		M5,MR3		MR,MH
K Cast Iron	Light	**UZ**	LK,MA,MK,SW	CM,CF	Standard	V,VA	KF	UN	M5	NM5	GN
	Medium	**GZ**(UX)	GK,RK,GH,MW	Standard,CH,33	ZS,GC	Y,RE	KM,KR	UM	MR7		
N Non-Ferrous Metal	Finishing	**AX**		P	A3,AH			MS,GP			
S Exotic Alloy	Finishing	**EF**	LS,FJ				SF			NFT	
	Medium	**EG,EX**	MS,MJ	HMM,SA			SM			NMT	
	Roughing	**MU**	RS,GJ				SMR			NRT	
H Hardened Steel	Finishing	**GH,FV★**									
	Light	**LV★**									
	Carburized Layer Removal	**SV★**									

( ) indicates a discontinued item. ★ : Polycrystalline chipbreakers

Positive

Class	Application	Sumitomo Electric	Mitsubishi	Tungaloy	Kyocera	Hitachi	Sandvik	Kennametal	SECO Tools apan	WALTER	ISCAR
P Steel	Finishing	**FC**	FJ,AM	01	CF,GF		UM		GT-F1	PF5	
		FB,LU(FP,FK)	FP,FM,FV,SQ	PSF,PF,23,SS,JSS	GP,XP	JQ,MP	PF,UF,MF,KF	11,UF	FF1	PF4	PF
	Wiper Edge	**LUW**	SW				WF	FW	W-F1	PF	WF
M Stainless Steel		**SDW**					WK				
	Finishing to Light Cutting	**SI**	SMG	JS	CK						
K Cast Iron	Light	**LB,SU**(SK,SF)	LP,LM,SV,MQ	PSS,PS,24,TS,TJS	HQ,XQ,GK	JE	PM,UM,MM	LF	F1	PS5	SM,14
		SC			MF,GQ						
	Light to Medium	**MU**	MP,MM,MK,MV	PM			PR,UR,MR,KR	MF	F2	PM5	17,19
N Non-Ferrous Metal	Finishing	**AG,AW,AY**	AZ	AL,PP	AH,A3		AL	HP	AL	PM2	AS,AF
	Finishing to Light Cutting	**LD★,GD★**									
H Hardened Steel	Finishing	**FV★**									
	Light	**LV★**									

( ) indicates a discontinued item. ★ : Polycrystalline chipbreakers

(Note) The above data was collected from the various published catalogues therefore the information may not be updated.

Chipbreaker Application Table

Bumpy Breaker | Standard Breaker | Handed Breaker | Break Master(CBN/PCD) | For Chamfering

Negative Type — Finishing to Medium Cutting

Fine Finishing

FA Type — P M K N S H
Profile breaker perfect for fine finishing
1.0 / 20°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

FL Type — P M K N S H
Optimal breaker for chip management on iron sheeting
1.0 / 10°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

Legend

Breaker Code — **GU Type** — P M K N S H — Work Material
Versatile breaker featuring excellent wear resistance — Characteristics
Appearance
0.25 / 2.05 / 25° / 7° — Cross Section
Relief angle — Relief angle 0° — CNMG1204 ○○ Type — Cross Section Cat. No.
Stock Items — C D R S T V W

Finishing

LU Type — P M K N S H
Effective chip management for fluctuating cut depths and copying
1.5 / 1.0 / 10°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

SP Type — P M K N S H
Shows excellent cutting performance in finishing to light cutting
1.3 / 13°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

SU Type — P M K N S H
Effective in high-speed fine finishing
1.3 / 13°
Relief angle 0° — 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 / 17° / 5°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

EF Type — P M K N S H
Chipbreaker for exotic alloy finishing with excellent chip management
1.2 / 20°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

LUW Type — P M K N S H
High performance finishing breaker with wiper edge
Wiper Insert
1.5 / 1.0 / 10°
Relief angle 0° — 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°
Relief angle 0° — 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°
Relief angle 0° — TNGG1604 ○○ Type
C D R S T V W

FY Type — P M K N S H
Wide type breaker with sharp edge
2.5 / 15°
Relief angle 0° — TNGG1604 ○○ Type
C D R S T V W

FT Type — P M K N S H
Arc-shaped ground type finishing breaker
0.15 / 1.35
Relief angle 0° — TNGG1103 ○○ Type
C D R S T V W

Light to Medium

SJ Type — P M K N S H
Standard breaker with excellent cutting edge strength
0.18 / 1.2
Relief angle 0° — 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
Relief angle 0° — TNGG1603 ○○ Type
C D R S T V W

GX Type — P M K N S H
Double positive breaker providing superior cutting performance
1.5 / 15°
Relief angle 0° — SNGG1204 ○○ Type
C D R S T V W

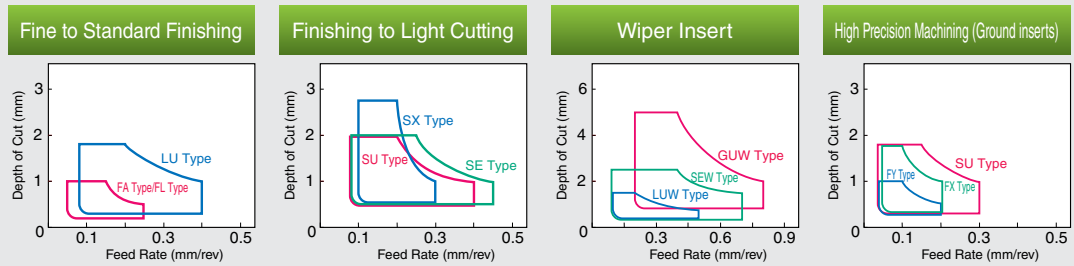
SX Type — P M K N S H
Perform copying and raise steps
0.2 / 1.35 / 15° / 3°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

EX Type — P M K N S H
Standard breaker designed especially for use with exotic alloys
2.0 / 16°
Relief angle 0° — 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°
Relief angle 0° — CNMG1204 ○○ Type
C D R S T V W

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

Chipbreaker Application Range (Insert IC 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 pages (from Chapter B onward).

Bumpy Breaker | Standard Breaker | Handed Breaker
Break Master(CBN/PCD) | For Chamfering

Chipbreaker Application Table

Negative Type — Medium to Rough Cutting

Medium

GU Type — P M K N S H
Features low cutting resistance and excellent wear resistance
0.25 | 2.05 | 25° | 7° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

GE Type — P M K N S H
A versatile breaker with excellent rake surface wear in high efficiency cutting
2.0 | 0.25 | 23° | 3° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

UX Type — P M K N S H
Extremely reliable and versatile breaker with strong cutting edge
2.0 | 0.25 | 15° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

UG Type — P M K N S H
Popular and versatile breaker
1.7 | 0.2 | 21° | 4° | CNMG1204 ○○ Type
Relief angle 0°
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
1.75 | 0.09 | 30° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

UM Type — P M K N S H
General-purpose ground type medium-cutting breaker
2.0 | 0.15 | 14° | SNMG1204 ○○ Type
Relief angle 0°
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
2.5 | 0.3 | 23° | CNMG1204 ○○ Type
Wiper Insert
Relief angle 0°
C D R S T V W

Medium to Rough

EM Type (New) — P M K N S H
Achieves excellent fracture and crater resistance
2.5 | 0.05 | CNMG1204 ○○ Type
Relief angle 0°
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
2.5 | 0.3 | 20° | 4° | CNMG1204 ○○ Type
Relief angle 0°
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
2.4 | 0.3 | 4° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

MX Type — P M K N S H
Strong cutting edge for interrupted cutting
2.3 | 0.2 | 0.4 | 20° | 15° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

UZ Type — P M K N S H
Standard breaker with stable cutting performance
1.9 | 0.3 | 14° | 4° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

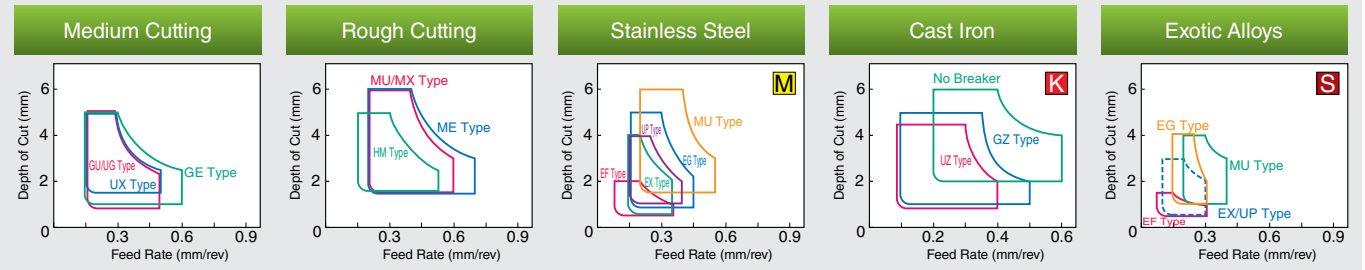
GZ Type — P M K N S H
Extremely reliable standard breaker with strong cutting edge
1.9 | 0.25 | 16° | CNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

HM Type — P M K N S H
Wide, M class, handed breaker with low cutting resistance for medium to rough cutting.
2.7 | 0.2 | 15° | 25° | TNMG1604 ○○ Type
Relief angle 0°
C D R S T V W

MM Type — P M K N S H
Ground breaker with wide and gentle rake angle
2.95 | 0.15 | 10° | SNMG1204 ○○ Type
Relief angle 0°
C D R S T V W

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

Chipbreaker Application Range (Insert IC up to ø12.7mm)



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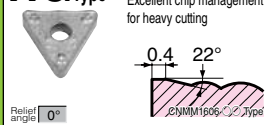
Chipbreaker Application Table

Bumpy Breaker | Standard Breaker | Handed Breaker | SUMIBORON Break Master | For Chamfering

Negative Type — Rough Cut

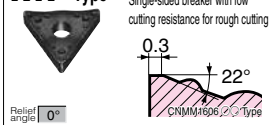
Rough to Heavy

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



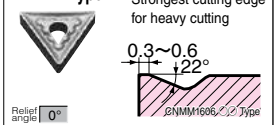
Relief angle 0°
C D R S T V W

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



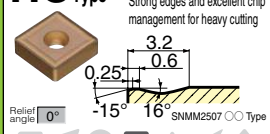
Relief angle 0°
C D R S T V W

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



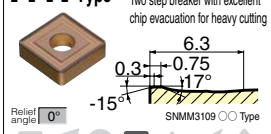
Relief angle 0°
C D R S T V W

HU Type — P M K N S H
Strong edges and excellent chip management for heavy cutting



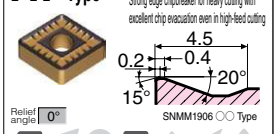
Relief angle 0°
C D R S T V W

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



Relief angle 0°
C D R S T V W

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

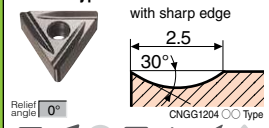


Relief angle 0°
C D R S T V W

Negative Type — For Aluminum Alloy Machining

Finishing

AX Type (New) — P M K N S H
Parallel Al breaker with sharp edge

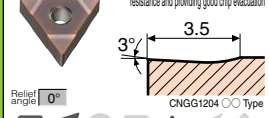


Relief angle 0°
C D R S T V W

Negative Type — For Hardened Steel Machining

Finishing

GH Type (New) — P M K N S H
Hardened steel breaker reducing cutting resistance and providing good chip evacuation

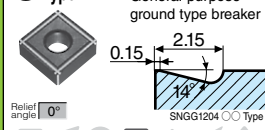


Relief angle 0°
C D R S T V W

Negative Type — For Chamfering

For Chamfering

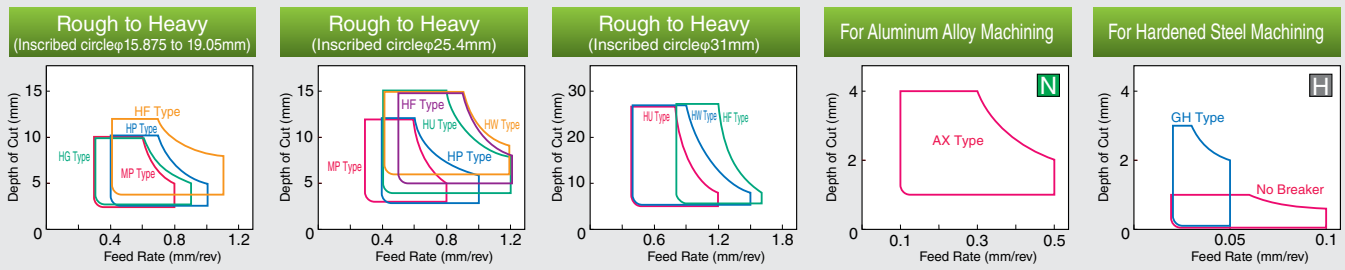
C Type — P M K N S H
General-purpose ground type breaker



Relief angle 0°
C D R S T V W

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

Chipbreaker Application Range



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 pages (from Chapter B onward).

Bumpy Breaker | Standard Breaker | Handed Breaker
Break Master (CBN/PCD)

Chipbreaker Application Table

Positive Type — Medium-Rough Cut

Finish to Light

FB Type (New)
P M K N S H
Finishing soft steel breaker providing good chip control and finely-machined surfaces
0.5 / 20°
Relief angle 5° 7° 11°
CCMT09T3 ○○ Type
C D R S T V W

LU Type
P M K N S H
Chip management significantly improved in fine finishing
0.8 / 15°
Relief angle 5° 7° 11°
CCMT09T3 ○○ Type
C D R S T V W

LUW Type
P M K N S H
High performance finishing breaker with wiper edge
Wiper Insert
1.5 / 10°
Relief angle 7° 11°
CCMT09T3 ○○ Type
C D R S T V W

FP Type
P M K N S H
Provides good chip control in fine finishing
1.40 / 10°
Relief angle 7°
CCMT09T3 ○○ Type
C D R S T V W

FK Type
P M K N S H
Finishing breaker with sharp edge and good chip control
1.1
Relief angle 11°
TPMT1604 ○○ Type
C D R S T V W

Light to Medium

LB Type (New)
P M K N S H
Light-cutting breaker with sharp edge and good chip control
0.8 / 15°
Relief angle 5° 7° 11°
CCMT09T3 ○○ Type
C D R S T V W

SU Type
P M K N S H
General-purpose breaker with sharp edge
1.45 / 8°
Relief angle 7° 11°
TPMT1103 ○○ Type
C D R S T V W

SS Type
P M K N S H
Medium-cutting breaker providing good chip control
1.15 / 5°
Relief angle 11°
CPMH0903 ○○ Type
C D R S T V W

US Type
P M K N S H
Breaker for small diameter boring bars
1.95 / 10°
Relief angle 11°
CPMH0903 ○○ Type
C D R S T V W

MU Type
P M K N S H
Long lifetime breaker with low cutting resistance
0.35 / 1.8 / 0.1 / 4° / 20°
Relief angle 7° 11°
TPMT1604 ○○ Type
C D R S T V W

SF Type
P M K N S H
Very reliable breaker with sharp edge
0.2 / 1.6 / 14°
Relief angle 11°
TPMT1604 ○○ Type
C D R S T V W

UJ Type
P M K N S H
Ensures stable tool life
0.1 / 1.5 / 5°
Relief angle 11°
TPMR1603 ○○ Type
C D R S T V W

Positive Type — G Class w/Ground Chipbreaker

Finish to Light

FW Type
P M K N S H
Wide dimple breaker with sharp edge
0.90 / 15°
Relief angle 5° 11°
TPMT1102 ○○ Type
C D R S T V W

FX Type
P M K N S H
Parallel breaker with sharp edge
0.9 / 15°
Relief angle 5° 7° 11°
TPGT1103 ○○ Type
C D R S T V W

FY Type
P M K N S H
Wide breaker with sharp edge
1.5 / 15°
Relief angle 5° 7° 11°
TPGT1103 ○○ Type
C D R S T V W

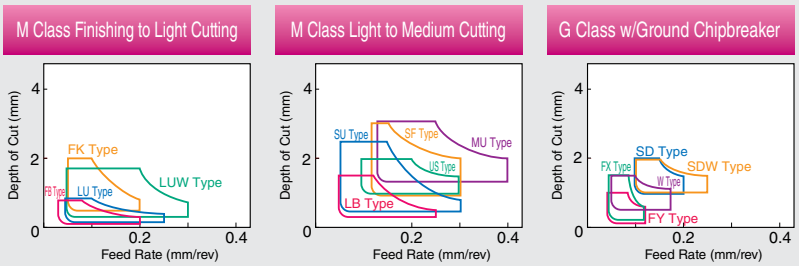
W Type
P M K N S H
Wide type finishing breaker
0.15 / 1.0 / 10°
Relief angle 5° 11°
TPGR1103 ○○ Type
C D R S T V W

SD Type
P M K N S H
Stepped parallel ground type
0.9
Relief angle 7° 11°
TPGT1103 ○○ Type
C D R S T V W

SDW Type
P M K N S H
Parallel ground type with high performance wiper edge
Wiper Insert
0.9
Relief angle 11°
TPGX1103 ○○ Type
C D R S T V W

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

Chipbreaker Application Range



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 pages (from Chapter B onward).

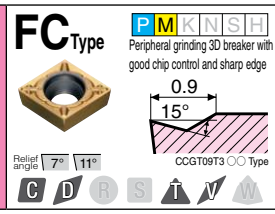
Chipbreaker Application Table

Bumpy Breaker | Standard Breaker | Handed Breaker | SUMIBORON Break Master

Positive Type — G Class

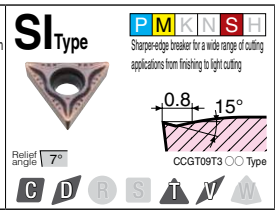
Finish to Light

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



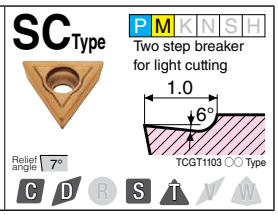
C D R S T V W

SI Type
P M K N S H
Sharper-edge breaker for a wide range of cutting applications from finishing to light cutting



C D R S T V W

SC Type
P M K N S H
Two step breaker for light cutting

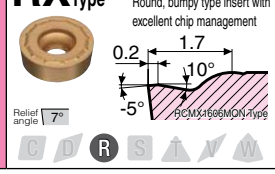


C D R S T V W

Positive Type — Round Inserts

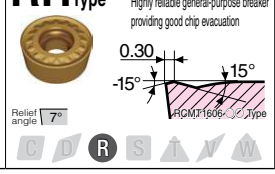
Round

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



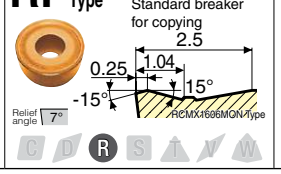
C D R S T V W

RH Type (New)
P M K N S H
Highly reliable general-purpose breaker providing good chip evacuation



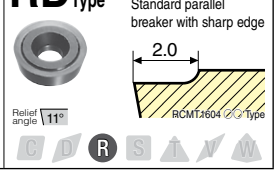
C D R S T V W

RP Type
P M K N S H
Standard breaker for copying



C D R S T V W

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

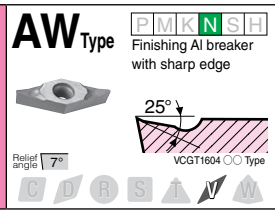


C D R S T V W

Positive Type — For Aluminum Alloy Machining

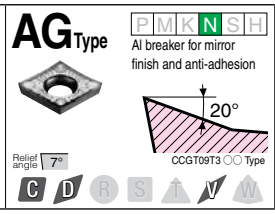
Finishing

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



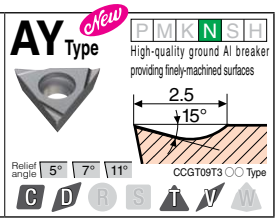
C D R S T V W

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



C D R S T V W

AY Type (New)
P M K N S H
High-quality ground Al breaker providing finely-machined surfaces

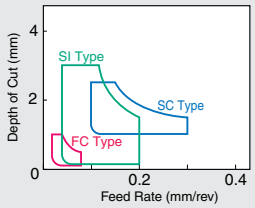


C D R S T V W

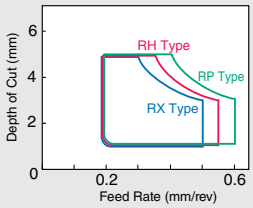
Work Material: P Steel | M Stainless Steel | K Cast Iron | N Non-Ferrous Metal | S Exotic Alloy | H Hardened Steel

Chipbreaker Application Range

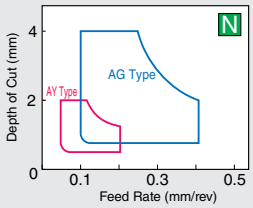
G Class Chipbreakers



Round Inserts (Inscribed circle up to φ12.7mm)



For Aluminum Alloy Machining



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 pages (from Chapter B onward).

Chipbreaker Application Table

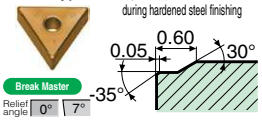
SUMIBORON Insert CBN

Finish to Light

LV Type

P M K N S H

Significantly improved chip control during hardened steel finishing



Break Master

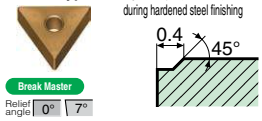
Relief angle 0° 7°

C D R S T V W

FV Type

P M K N S H

Significantly improved chip control during hardened steel finishing



Break Master

Relief angle 0° 7°

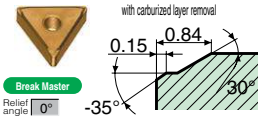
C D R S T V W

Carburized Layer Removal

SV Type

P M K N S H

Significantly improved chip management with carburized layer removal



Break Master

Relief angle 0°

C D R S T V W

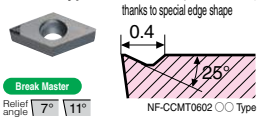
SUMIDIA Insert PCD

Finish to Light

LD Type New

P M K N S H

Ideal for finishing of aluminum alloy thanks to special edge shape



Break Master

Relief angle 7° 11°

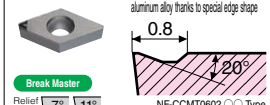
NF-CCMT0602 ○○ Type

C D R S T V W

GD Type New

P M K N S H

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



Break Master

Relief angle 7° 11°

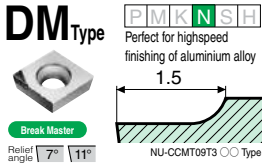
NF-CCMT0602 ○○ Type

C D R S T V W

DM Type

P M K N S H

Perfect for highspeed finishing of aluminium alloy



Break Master

Relief angle 7° 11°

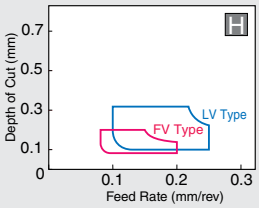
NU-CCMT09T3 ○○ Type

C D R S T V W

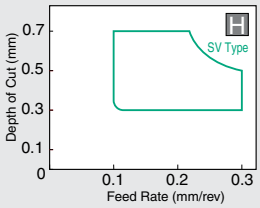
Work Material: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

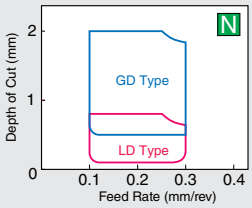
SUMIBORON (Hardened Steel Machining) (Inscribed circle up to φ12.7mm)



SUMIBORON Inserts (Carburized Layer Removal) (Inscribed circle up to φ12.7mm)



SUMIDIA (For Aluminum Alloy Machining)



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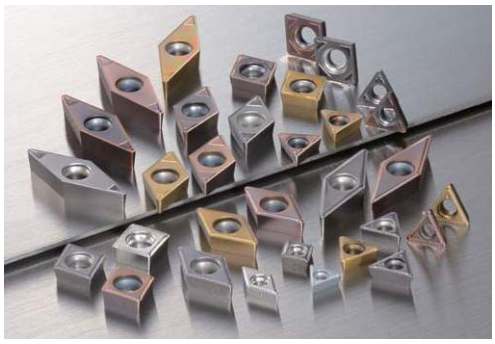
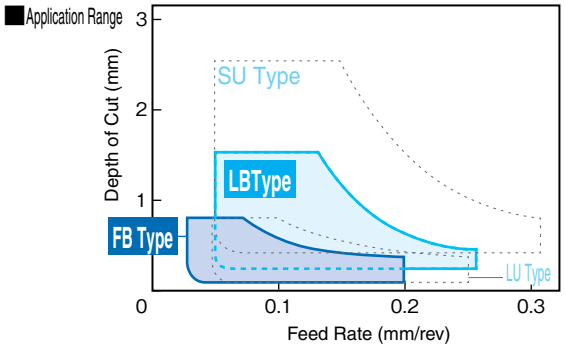
FB Type/LB Type

P Steel

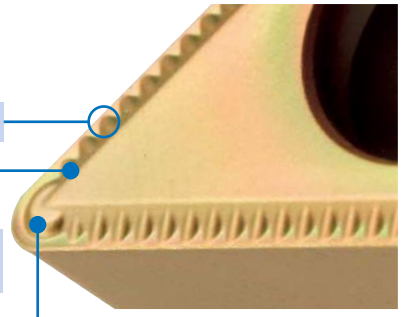
New



- The FB type for finishing and the LB type for light cutting have been added to the chipbreaker series for low carbon and general steel machining in addition to the already present 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.



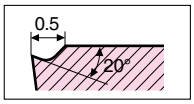
FB Type Chipbreaker For Finishing



Ridge reduces edge breakage

High rake breaker wall improves chip breaking performance

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



Cross Section of Chipbreaker

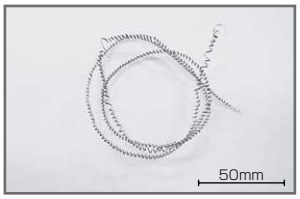
Performance

Chip Control

Work Material : Pipe (STKM13A) ϕ30 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 small cutting depth and low feed

FB Type Chipbreaker (T1500A)



Competitor's Product

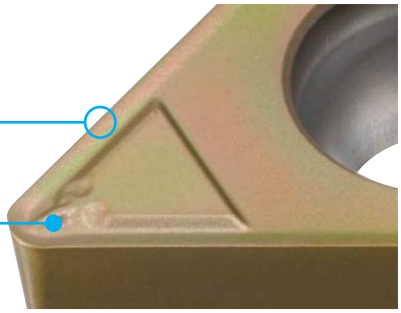
Comparison of Surface Roughness of Finished Surfaces

Work Material : Pipe (STKM13A) ϕ100 Boring Insert : TPMT110304N-FB (T1500A)
Cutting Conditions : v_c=200m/min f = 0.07mm/rev a_p=0.1mm Wet

FB Type Chipbreaker (T1500A)

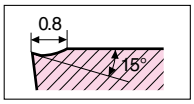
Competitor's Product

LB Type Chipbreaker For Light Cutting



Strengthened edge reduces unexpected breakage

Special breaker ridge shape achieves stable chip control



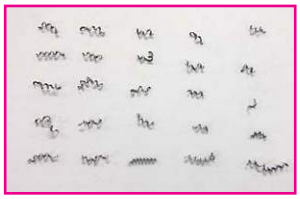
Cross Section of Chipbreaker

Performance

Chip Control ①

Work Material : Pipe (STKM13A) ϕ30 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

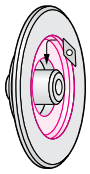


LB Type Chipbreaker (T1500A)

Competitor's Product

Chip Control ②

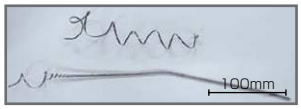
Work Material : Hub (S45C) Insert : VBMT160408N-LB (T1500A)
Cutting Conditions : v_c=240m/min f = 0.25~0.28mm/rev a_p=0.6mm Wet



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

LB Type Chipbreaker (T1500A)

Competitor's Product



Chipbreaker for Hardened Steel Turning

GH Type

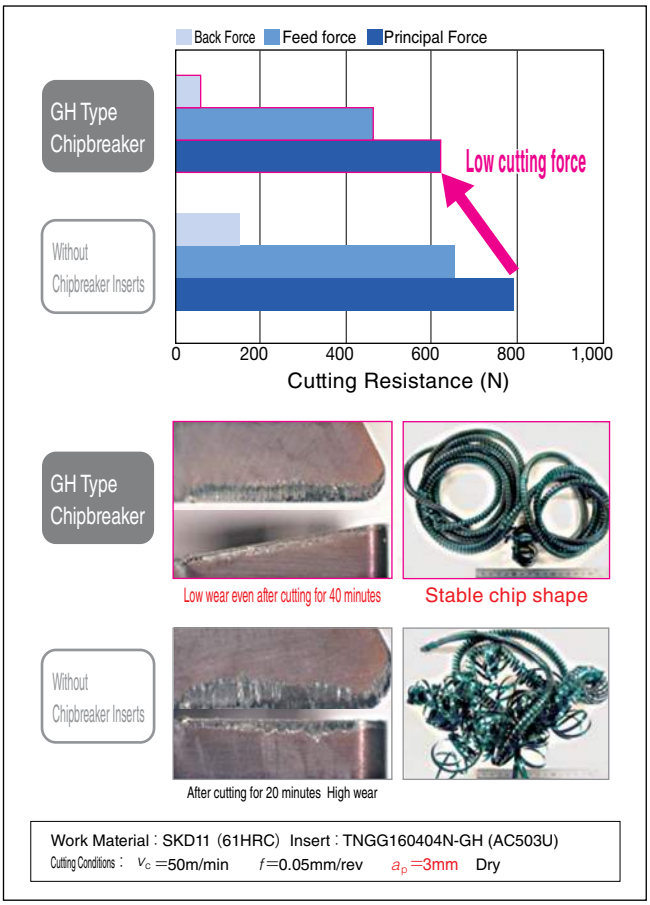
H Hardened Steel

New

Negative Insert for Medium Roughing GH Type Chipbreaker

- Enables medium roughing of hardened steel thanks to the combination with coating grade AC503U.
- Reduces heat generation and enables large cutting depth (a_p=1 to 3mm) of hardened steel thanks to wide neutral ground breaker (rake angle=4°) and sharp edge.
- Provides smooth chip evacuation.

Performance



■ Recommended Cutting Conditions

Work Material : Hardened steel (50 to 62HRC), SKD11, SKD61, SKH51, Powdered HSS, High-speed steel

Cutting State	Cutting Speed v_c(m/min)	Feed Rate f(mm/rev)	Depth of Cut a_p(mm)	Recommended Chipbreaker
Finishing	40 to 100	0.02 to 0.10	<1	Without Chipbreaker Inserts
Medium Roughing	20 to 60	0.02 to 0.05	1 to 3	GH Type

For hardened steel (50 to 62HRC)

Chipbreaker for Aluminum Alloy and Non-Ferrous Metal Turning

AX Type/AY Type

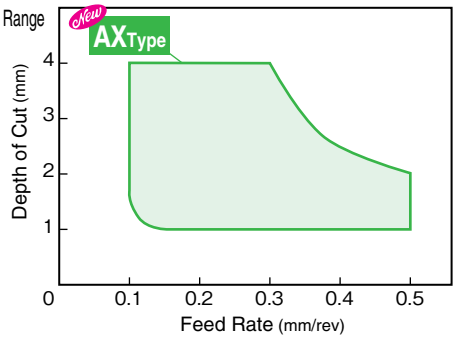
N Non-Ferrous Metal

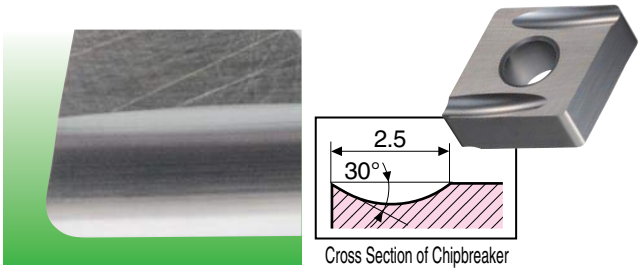
New

Negative Insert AX Type Chipbreaker

- Ideal for external turning of non-ferrous metal when combined with carbide grade H1.
- Achieves stable cutting over a wide cutting range thanks to a high-quality parallel ground breaker.
- Enables a wide variety of applications with a wide selection of tools (28 items).

■Application Range

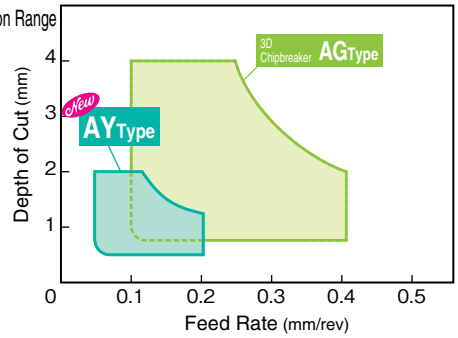


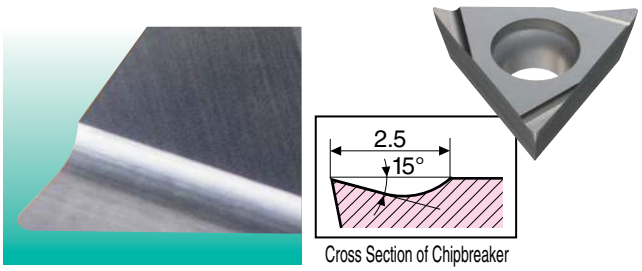


Positive Insert AY Type Chipbreaker

- Ideal for internal turning of non-ferrous metal when combined with carbide grade H1.
- Provides excellent machined surface quality and chip control with a high-quality ground breaker in finishing applications.
- Covers a wide variety of applications with a wide selection of tools (56 items) and in combination with the AG type 3D chipbreaker.

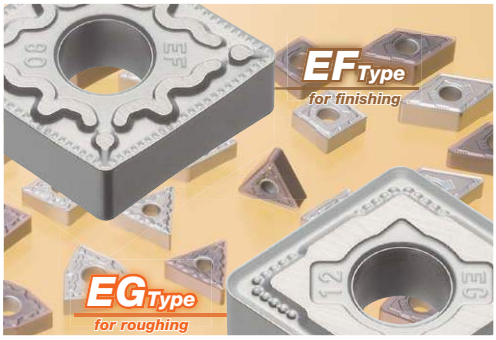
■Application Range





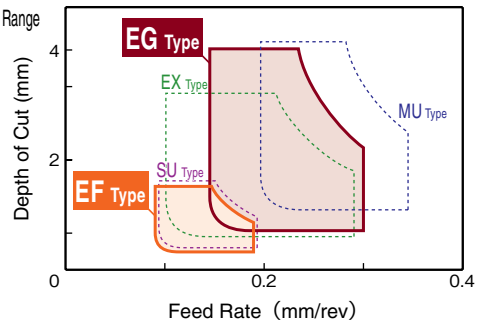
EF Type/EG Type

S Exotic Alloy



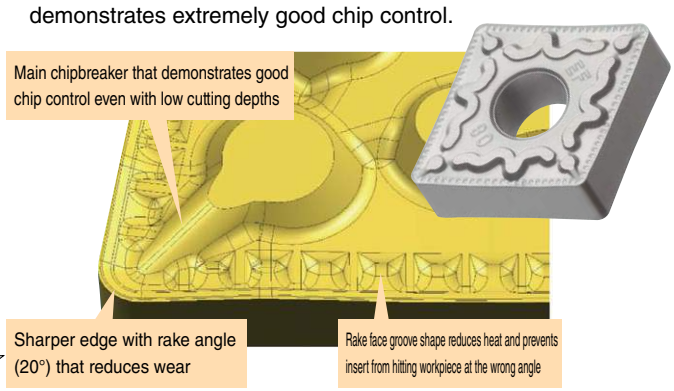
- EG/EF type chipbreakers for exotic alloy machining can be used for titanium alloys, heat-resistant alloys, and a variety of other exotic alloys.
- Combining excellent wear resistance and superior chip control, these chipbreakers improve equipment and quality problems caused by the unstable tool life and poor chip control provided by conventional chipbreakers for exotic alloys.

■Application Range



EF Type Chipbreaker for Finishing

●Reduces chip curl diameter in finishing applications and demonstrates extremely good chip control.



Performance

Heat-Resistant Alloy

Work Material: Inconel 718 Insert: CNMG120408 (AC510U)
Cutting Conditions: v_c=55m/min f=0.2mm/rev a_p=0.3mm Wet

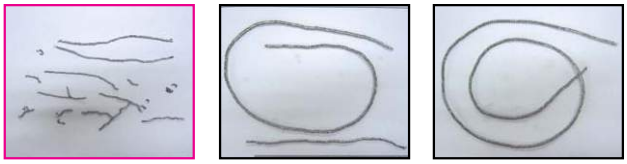
Small chips with short chip curl diameter

EF Type Chipbreaker (AC510U) | Conventional Grade (S10) | Competitor's Product (S10)

Titanium Alloy

Work Material:Ti-6Al-4V Insert: CNMG120412 (EH510)
Cutting Conditions: v_c=80m/min f=0.2mm/rev a_p=0.5mm Wet

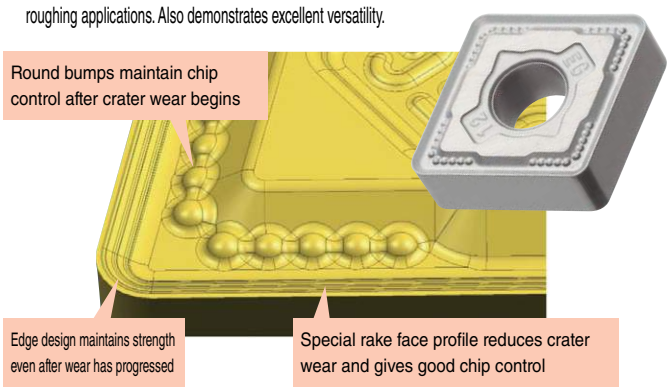
Small chips with short chip curl diameter



EF Type Chipbreaker (EH510) | Conventional Grade (S10) | Competitor's Product (S10)

EG Type Chipbreaker for Roughing

●Provides excellent wear resistance and chip control in everything from general-purpose machining to roughing applications. Also demonstrates excellent versatility.

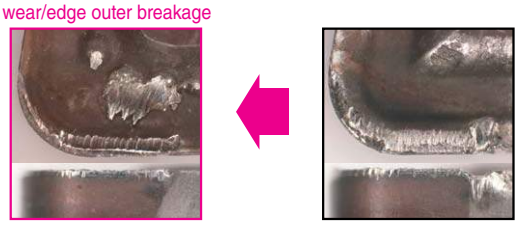


Performance

Heat-Resistant Alloy

Work Material: Inconel 718 Insert: CNMG120412 (AC510U)
Cutting Conditions: v_c=40m/min f=0.2mm/rev a_p=2.5mm Wet

Cuts chips with reduced notch wear/edge outer breakage | Notch wear/outer edge breakage



EG Type Chipbreaker (AC510U) | Conventional Grade (S10)

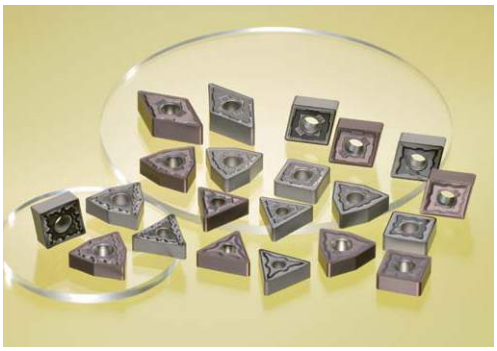
Titanium Alloy

Work Material:Ti-6Al-4V Insert: CNMG120412 (EH510)
Cutting Conditions: v_c=65m/min f=0.2mm/rev a_p=2.5mm Wet

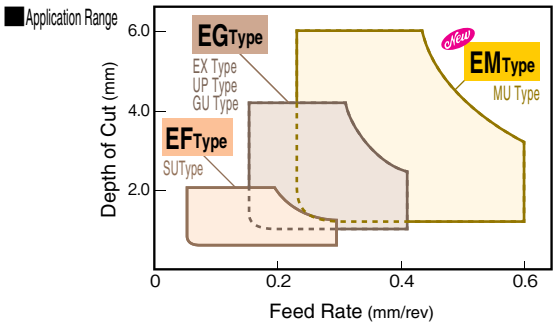
Cuts chips with reduced crater/flank wear | Crater/flank wear

EG Type Chipbreaker (EH510) | Conventional Grade (S10)

M Stainless Steel EF Type/EG Type/EM Type New

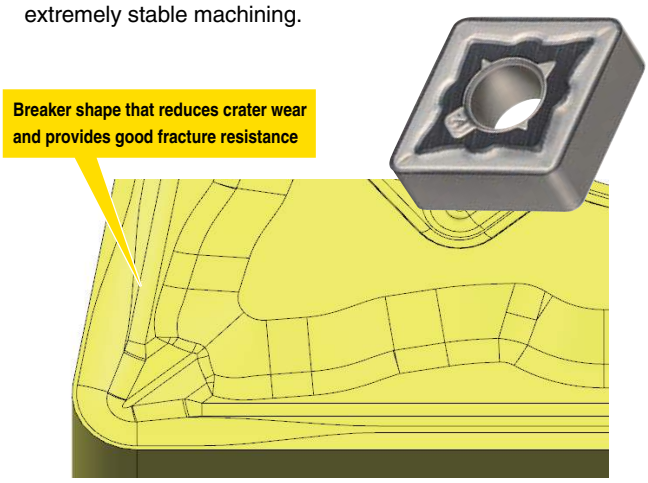


- The EM type for roughing has been added to the chipbreaker series for stainless steel machining in addition to the already present EF type for finishing and EG type for medium cutting.
- The EM type achieves excellent wear resistance and cutting edge strength while the EF type and EG type achieve excellent wear resistance and chip control, enabling stable machining of stainless steel.

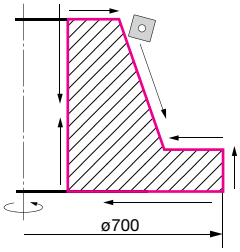


New EM Type Chipbreaker For Roughing

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



Performance



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

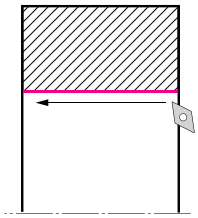
EM Type Chipbreaker (AC6030M)

Conventional Grade

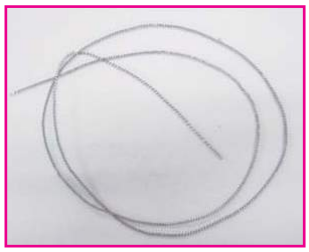
Reduces cutting edge breakage and enables stable machining

EF Type Chipbreaker For Finishing

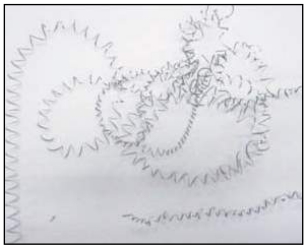
Performance



Work Material : SUS304 Cover Component
Insert : DNMG150408 (AC6040M)
Cutting Conditions : v_c=55m/min
f= 0.125mm/rev a_p=0.3mm Wet



EF Type Chipbreaker (AC6040M)

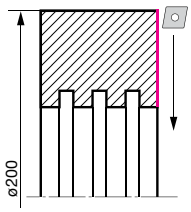


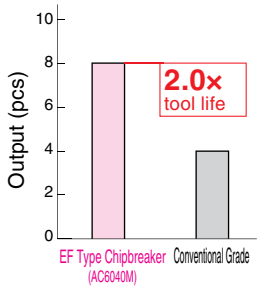
Conventional Grade

Improves chip control and reduces scratches on finished surfaces

EG Type Chipbreaker For Medium Cut

Performance





Work Material : SCS13A Coupling Component Insert : CNMG120408 (AC6040M)
Cutting Conditions : v_c=70 to180m/min f= 0.14mm/rev a_p=2.5mm Wet

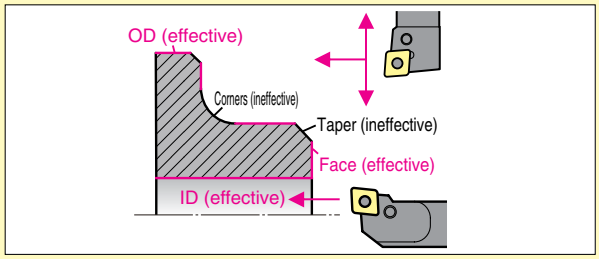
Reduces flank wear and achieves excellent chip control

Important Notes About Wiper Inserts

Wiper Insert Effects

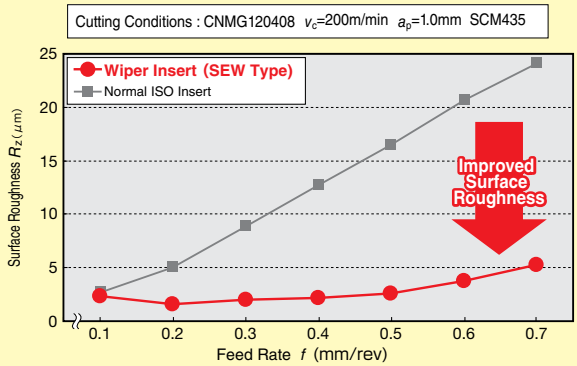
Wiper inserts are effective for turning inner/outer diameters, and for facing as shown in the figure below. They can also maintain surface roughness in high-feed machining.

■ Range of Wiper Insert Effectiveness



*Wiper inserts leave the same surface roughness as normal inserts at tapers and corners.
*Edge position compensation (offset) may be required depending on insert shape. Refer to the tables below.

■ Roughness (actual measurements)

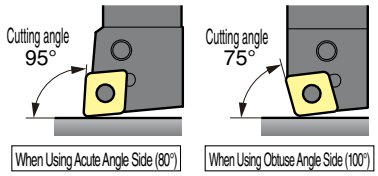


Coated Carbide/Coated Cermet/Cermet

CNMG/WNMG/CCMT/CPMT Type

LUW/GUW/SEW Type Breakers (CCMT/CPMT types only available with LUW Type breakers)

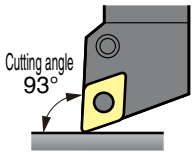
- Use a holder with a 95° cutting angle.
- No tool compensation required.
  CNMG/WNMG/CCMT/CPMT type wiper inserts follow the ISO standard allowing use without correcting the machining program.
- The obtuse (100°) corner on the CNMG type can also provide a wiper effect.



DNMX Type

SEW Type Breakers

- Use a holder with a 93° cutting angle.
- Tool compensation required.
  DNMX type wiper inserts do not follow the ISO standard. Correct the machining program as explained on the opposite page (B19).

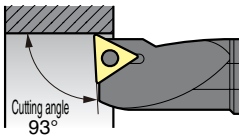


DNMX Type
Machining Program Compensation Guide
(→B19)

TPGX Type

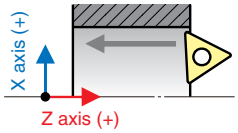
SDW Type Breakers

- Use a boring bar with a 93° cutting angle.
- Tool compensation required.
  TPGX type wiper inserts do not follow the ISO standard. Correct the cutting edge position (tool offset) as explained on the right.



TPGX Type Breaker Cutting Edge Position Compensation (SDW Type)

Internal boring



Nose Radius	X direction	Z direction
R0.4	0.12	-0.02
R0.8	0.12	-0.02

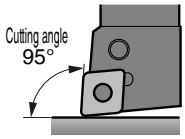
Note: Unlike the other profiles, the TPGX type is only effective for boring.

CBN (CBN/Coated CBN)

CNGA/CCGW/WNGA Type

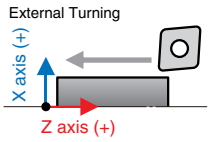
WG/WH Type Breakers

- Use a holder with a 95° cutting angle.
- Tool compensation required.
  CNGA/CCGW/WNGA type wiper inserts do not follow the ISO standard. Correct the cutting edge (tool offset) as explained on the right.



CNGA/CCGW/WNGA Type Breaker Cutting Edge Position Compensation (WG/WH Type)

External Turning

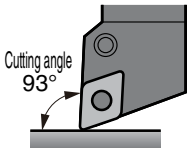


Nose Radius	Type	X direction	Z direction
R0.4	WG Type	-0.02	-0.02
	WH Type	-0.06	-0.06
R0.8/R1.2	WG Type	-0.01	-0.01
	WH Type	-0.06	-0.06

DNGA/DCGW Type

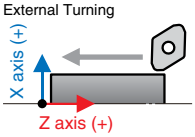
WG/WH Type Breakers

- Use a holder with a 93° cutting angle.
- Tool compensation required.
  DNGA/DCGW type wiper inserts do not follow the ISO standard. Correct the cutting edge position (tool offset) as explained on the right.



DNGA/DCGW Type Breaker Cutting Edge Position Compensation (WG/WH Type)

External Turning



Nose Radius	Type	X direction	Z 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 the other profiles, the DNGA/DCGW type is only effective for turning/boring.

Tool Compensation Guide for DNMX Type Wiper Inserts (Compensation: mm)

(1) Cutting edge position compensation (tool offset) in X and Z axes

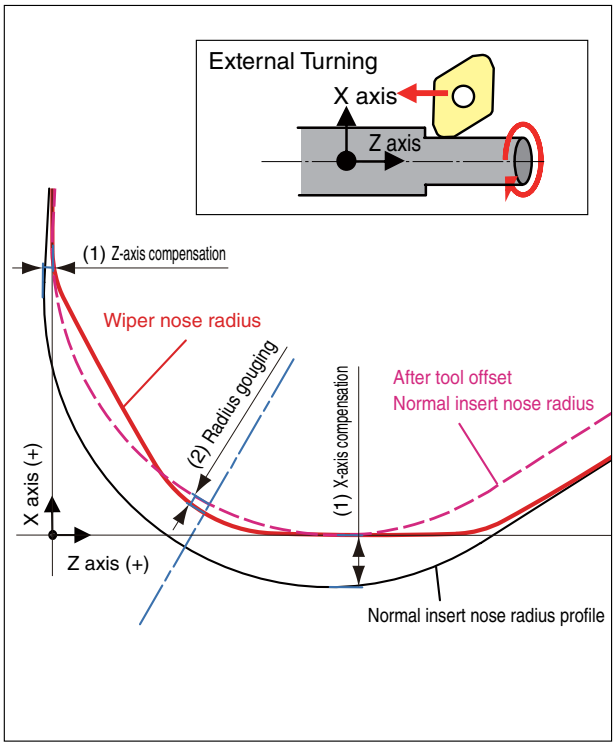
The cutting edge for this insert differs from standard ISO inserts and therefore requires a tool compensation be made in the X and Z axes as shown in the table on the right.

*** The X axis compensation is positive for internal boring.**

External Turning

	X direction	Z direction
Nose Radius R0.4	-0.14	-0.02
Nose Radius R0.8	-0.14	-0.02
Nose Radius R1.2	-0.1	-0.03

● Nose Radius

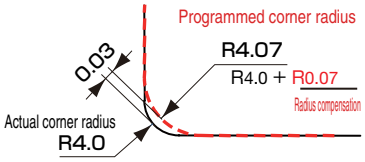


(2) Tool compensation for corners (Based on compensation in step (1))

The corner radius must be corrected to prevent the insert from gouging the corner with respect to the programmed tool path.

Programmed corner radius = Actual corner radius + Radius compensation

Example) To machine an R4.0 corner (using a 0.8mm nose radius)



	Gouging	Radius compensation
Nose Radius R0.4	0.02	+R0.04
Nose Radius R0.8	**0.03**	**+R0.07**
Nose Radius R1.2	0.08	+R0.18

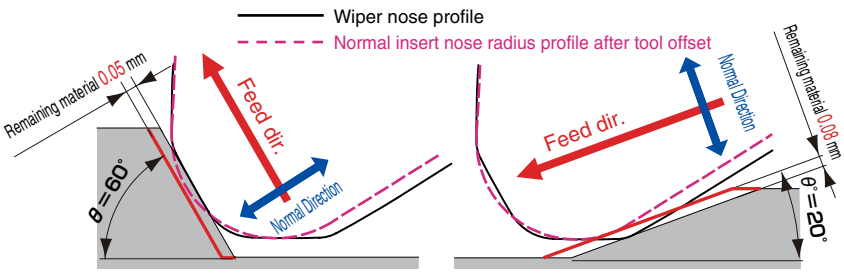
(3) Tool compensation for tapers (based on compensation in step (1))

Tool paths for tapers leave gouging and remaining material with respect to the programmed tool path.
Correct the normal direction as shown below.

Compensation + indicates gouging
Compensation - indicates uncut material.

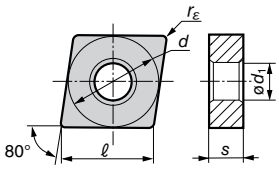
	Taper Angle (θ)				
	-25°	**-20°**	-15°	-10°	-5°
Nose Radius R0.4	0.08	0.07	0.05	0.04	0.02
Nose Radius R0.8	0.09	**0.08**	0.06	0.05	0.02
Nose Radius R1.2	0.05	0.05	0.05	0.03	0.02

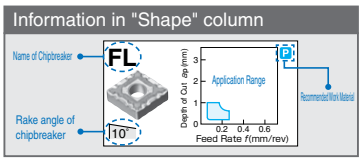
Ex.) Machining a 60°/-20° taper, using a 0.8mm nose radius



	Taper Angle (θ)																		
	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	**60°**	65°	70°	75°	80°	85°	90°
Nose Radius 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
Nose Radius 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
Nose Radius 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

CN 80° Diamond Type Negative With Insert Hole





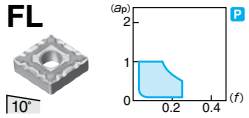
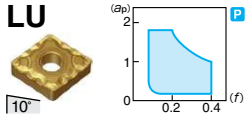
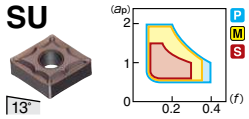
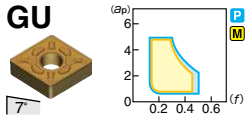
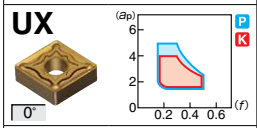
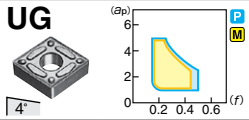
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◓ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CN■■0903●●

- ℓ : 9.7
- s : 3.18
- ød : 9.525
- ød1 : 3.81

Applicable External Holders ☞ C7 Applicable Internal Holders ☞ E45 to E47

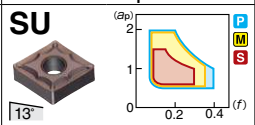
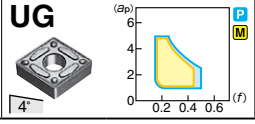
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC CZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◓	✖			◔								✪	✪			◓	✖		●	◓									
M stainless steel			✪		●	◔	◓	✖						◔	✪	✪															
K cast iron		✪							●	◓	✖			✪							●										
N non-ferrous metal																															◓
S exotic alloy														◓	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC CZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	FL 	CNMG 090308N-FL	0.8		●		▲		●							—					—	—	—	—	—	—	—							—
Finishing	LU 	CNMG 090304N-LU	0.4	●	●		▲		●							—					●	●	▲		●									—
		090308N-LU	0.8	●	●		▲		●							—					●	●	▲		●									—
Finishing	SU 	CNMG 090304N-SU	0.4		●		▲									—					—	—	—	—	—	—	—							—
		090308N-SU	0.8		●		▲									—					—	—	—	—	—	—	—							—
Medium Cut	GU 	CNMG 090304N-GU	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		090308N-GU	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
Medium Cut	UX 	CNMG 090304N-UX	0.4			●										—					—	—	—	—	—	—	—							—
		090308N-UX	0.8			●										—					—	—	—	—	—	—	—							—
Medium Cut	UG 	CNMG 090304N-UG	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		090308N-UG	0.8		●	●	▲									—					—	—	—	—	—	—	—							—

CN■■09T3●●

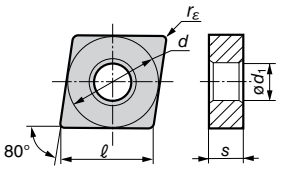
- ℓ : 9.7
- s : 3.97
- ød : 9.525
- ød1 : 3.81

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC CZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC CZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SU 	CNMG 09T304N-SU	0.4		●		▲									—					—	—	—	—	—	—	—							—
		09T308N-SU	0.8		●		▲									—					—	—	—	—	—	—	—							—
Medium Cut	UG 	CNMG 09T304N-UG	0.4		●		▲									—					—	—	—	—	—	—	—							—
		09T308N-UG	0.8		●		▲									—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CN 80° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

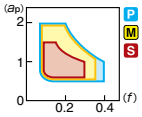
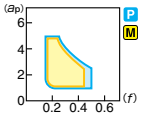
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CN■■0904●●

- ℓ : 9.7
- s : 4.76
- ød : 9.525
- ød1 : 3.81

Applicable External Holders ☞ C7

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

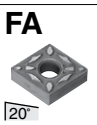
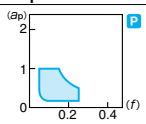
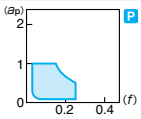
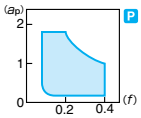
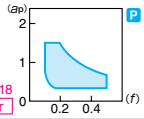
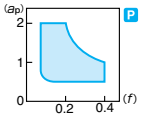
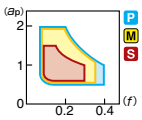
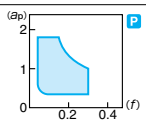
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SU 	CNMG 090404N-SU	0.4		●		▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		090408N-SU	0.8		●		▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—
Medium Cut	UG 	CNMG 090404N-UG	0.4		●		▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		090408N-UG	0.8		●	●	▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—

CN■■1204●●

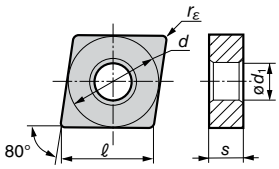
- ℓ : 12.9
- s : 4.76
- ød : 12.7
- ød1 : 5.16

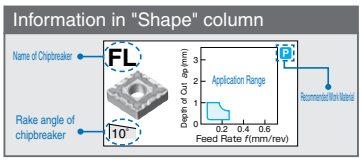
SUMIBORON (CBN) Insert ☞ From L28
SUMIDIA (PCD) Inserts ☞ M8
Ceramic Inserts ☞ B126
Applicable External Holders ☞ C7, 8
Applicable Internal Holders ☞ E45 to E47

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	FA  	CNMG 120402N-FA	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
		120404N-FA	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
		120408N-FA	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
	FL 	CNMG 120404N-FL	0.4		●		▲		●						—		●			●	●	▲	●	●									
		120408N-FL	0.8		●		▲		●						—		●			●	●	▲	●	●									
Finishing	LU 	CNMG 120402N-LU	0.2						●						—						●	●		●	●									
		120404N-LU	0.4	●	●	●	▲		●						—						●	●	▲	●	●		▲							
		120408N-LU	0.8	●	●	●	▲		●						—						●	●	▲	●	●		▲							
		120412N-LU	1.2	●	●	●	▲		●						—						●	●	▲		●		▲							
		120416N-LU	1.6												—						—	—	—	—	—	—	—							—
	LUW  →B18 Wiper	CNMG 120404N-LUW	0.4	●	●		▲		●						—						●	●	▲		●									
		120408N-LUW	0.8	●	●		▲		●						—						●	●	▲		●									
		120412N-LUW	1.2	●	●		▲		●						—						●	●	▲		●									
	SP 	CNMG 120404N-SP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
		120408N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
	SU 	CNMG 120402N-SU	0.2						●	●	●				—		●	●			●	●		●	●									
		120404N-SU	0.4	●	●	●	▲		●	●	●				—	●	●	●			●	●	▲	●	●	▲	▲							
		120408N-SU	0.8	●	●	●	▲		●	●	●				—	●	●	●			●	●	▲	●	●	▲	▲							
		120412N-SU	1.2	●	●	●	▲		●	●	●				—	●	●	●			●	●	▲	●	●		▲							
	SU 	CNGG 120402N-SU	0.2	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●		▲							
		120404N-SU	0.4	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●	▲	▲							
		120408N-SU	0.8	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●		▲	●	●	▲	▲							

CN 80° Diamond Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✖ : 2nd Choice

CN■■1204●●

- ℓ : 12.9
- s : 4.76
- ød : 12.7
- ød1 : 5.16

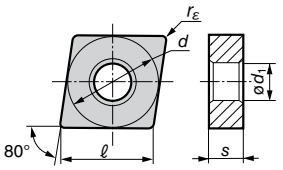
SUMIBORON (CBN) Insert From L28 | SUMIDIA (PCD) Inserts M8 | Ceramic Inserts B126
Applicable External Holders C7, 8 | Applicable Internal Holders E45 to E47

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Finishing	SE (5°)	CNMG 120404N-SE	0.4	●	●	●										—					●			●	●									
		CNMG 120408N-SE	0.8	●	●	●										—					●			●	●									
		CNMG 120412N-SE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		CNMG 120416N-SE	1.6													—					—	—	—	—	—	—	—							—
	SEW (5°, →B18 Wiper)	CNMG 120404N-SEW	0.4	●	●											—					●		▲		●									
		CNMG 120408N-SEW	0.8	●	●											—					●		▲		●									
		CNMG 120412N-SEW	1.2	●	●											—					—	—	—	—	—	—	—							—
	EF (20°)	CNMG 120404N-EF	0.4						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		CNMG 120408N-EF	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	EF (20°)	CNGG 120402N-EF New	0.2						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
		CNGG 120404N-EF New	0.4						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
		CNGG 120408N-EF New	0.8						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
Light-Medium Cut	SX (3°)	CNMG 120404N-SX	0.4	●	●	●	▲									—					●	●	▲		●		▲							
		CNMG 120408N-SX	0.8	●	●	●	▲									—					●	●	▲		●		▲							
		CNMG 120412N-SX	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
	EX (16°)	CNMG 120404N-EX	0.4					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		CNMG 120408N-EX	0.8					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		CNMG 120412N-EX	1.2					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		CNMG 120416N-EX	1.6													—					—	—	—	—	—	—	—							—
	UP (10°)	CNMG 120404N-UP	0.4		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		CNMG 120408N-UP	0.8		●	●	▲	●	●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		CNMG 120412N-UP	1.2		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
Medium Cut	GU (7°)	CNMG 120404N-GU	0.4	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
		CNMG 120408N-GU	0.8	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
		CNMG 120412N-GU	1.2	●	●	●	▲	●	●	●	●					—		●	●								▲							
		CNMG 120416N-GU	1.6		●	●	▲									—																		
	GE (3°)	CNMG 120404N-GE	0.4	●	●	●										—					—	—	—	—	—	—	—							—
		CNMG 120408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		CNMG 120412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		CNMG 120416N-GE	1.6	●	●	●										—					—	—	—	—	—	—	—							—
	GUW (0°, →B18 Wiper)	CNMG 120408N-GUW	0.8	●	●		▲									—					—	—	—	—	—	—	—							—
		CNMG 120412N-GUW	1.2	●	●		▲									—					—	—	—	—	—	—	—							—
	UX (0°)	CNMG 120404N-UX	0.4	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		CNMG 120408N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	▲							—
		CNMG 120412N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		CNMG 120416N-UX	1.6	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CN 80° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

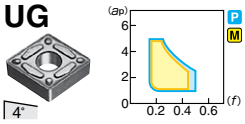
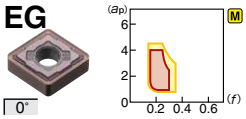
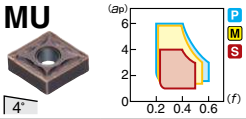
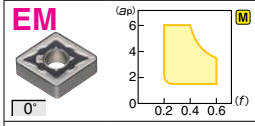
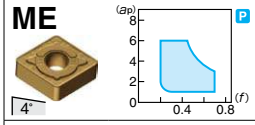
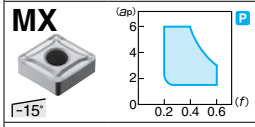
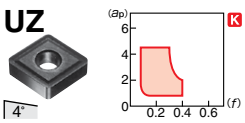
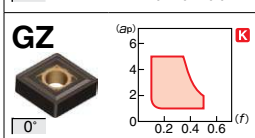
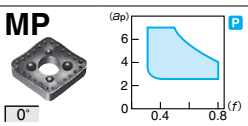
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CN■■1204●●

- ℓ : 12.9
- s : 4.76
- ød : 12.7
- ød1 : 5.16

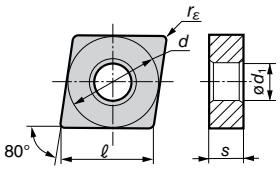
SUMIBORON (CBN) Insert ☞ From L28 | SUMIDIA (PCD) Inserts ☞ M8 | Ceramic Inserts ☞ B126
Applicable External Holders ☞ C7, 8 | Applicable Internal Holders ☞ E45 to E47

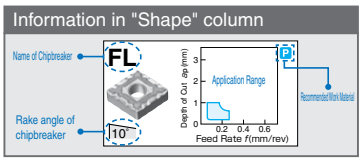
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Medium Cut	UG 	CNMG 120404N-UG	0.4		●	●	▲																				▲			●				
		120408N-UG	0.8		●	●	▲																				▲			●				
		120412N-UG	1.2		●	●	▲																				▲							
		120416N-UG	1.6		●	●	▲									—	—	—	—	—	—	—	—	—	—	—	—	—							—
	EG 	CNMG 120404N-EG New	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 New	0.2	—	—	—	—									●																		
		120404	0.4	—	—	—	—									●																		
		120408	0.8	—	—	—	—									●																		
Medium-Rough Cut	MU 	CNMG 120408N-MU	0.8	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
		120412N-MU	1.2	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
		120416N-MU	1.6	●	●	●	▲									—		●	●		—	—	—	—	—	—	—							—
	EM 	CNMG 120408N-EM New	0.8							●	●					—					—	—	—	—	—	—	—							—
		120412N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
		120416N-EM New	1.6							●	●					—					—	—	—	—	—	—	—							—
	ME 	CNMG 120408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		120412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		120416N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
	MX 	CNMG 120408N-MX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		120412N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
		120416N-MX	1.6		●		▲									—					—	—	—	—	—	—	—							—
	UZ 	CNMG 120404N-UZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		120408N-UZ	0.8		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—		▲	●	●			—
		120412N-UZ	1.2		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—				●			—
		120416N-UZ	1.6		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
	GZ 	CNMG 120404N-GZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		120408N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		120412N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		120416N-GZ	1.6		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
Rough Cut	MP 	CNMM 120408N-MP	0.8	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		120412N-MP	1.2	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		120416N-MP	1.6	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CN 80° Diamond Type Negative With Insert Hole





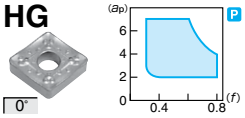
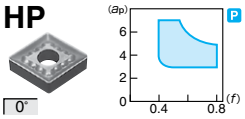
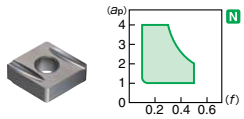
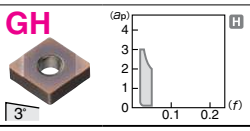
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CN■■1204●●

- ℓ : 12.9
- s : 4.76
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Insert From L28 · SUMIDIA (PCD) Inserts M8 · Ceramic Inserts B126 · Applicable External Holders C7, 8 · Applicable Internal Holders E45 to E47

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

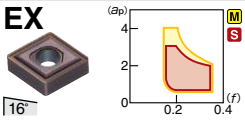
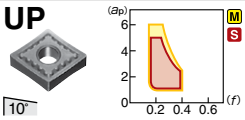
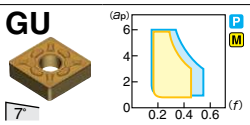
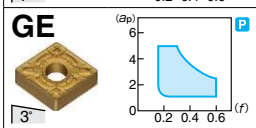
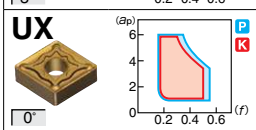
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cut	**HG** 	CNMM 120408N-HG	0.8	●	●	●	▲		●							—	—				—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMM 120412N-HG	1.2	●	●	●	▲		●							—	—				—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMM 120416N-HG	1.6		●											—	—				—	—	—	—	—	—	—	—	—	—	—	—	—	—
	HP 	CNMM 120408N-HP	0.8		●	●	▲		●							—	—				—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMM 120412N-HP	1.2		●	●	▲		●							—	—				—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMM 120416N-HP	1.6		●	●			●							—	—				—	—	—	—	—	—	—	—	—	—	—	—	—	—
for Aluminium	**AX** 	CNGG 120402R-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CNGG 120402L-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CNGG 120404R-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CNGG 120404L-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CNGG 120408R-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CNGG 120408L-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
Light Cutting of Hardened Steel	**GH** 	CNGG 120402N-GH New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNGG 120404N-GH New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNGG 120408N-GH New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

CN■■1606●●

- ℓ : 16.1
- s : 6.35
- ød : 15.875
- ød1 : 6.35

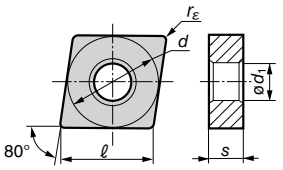
Applicable External Holders C7, 8

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut	**EX** 	CNMG 160612N-EX	1.2													—	●	●			—	—	—	—	—	—	—	—	—	—	—	—	—	—
	UP 	CNMG 160608N-UP	0.8													—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMG 160612N-UP	1.2													—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium Cut	**GU** 	CNMG 160608N-GU	0.8		●	●	▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMG 160612N-GU	1.2		●	●	▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMG 160616N-GU	1.6		●	●	▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
	GE 	CNMG 160612N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMG 160616N-GE	1.6	●	●	●										—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
	UX 	CNMG 160608N-UX	0.8	●	●	●	▲									—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMG 160612N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		CNMG 160616N-UX	1.6	●	●	●	▲								▲	—					—	—	—	—	—	—	—	—	—	—	—	—	—	—

▲mark : To be replaced by new item

CN 80° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

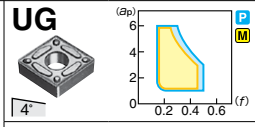
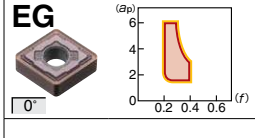
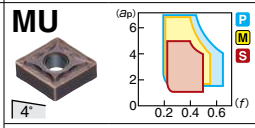
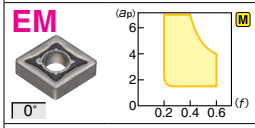
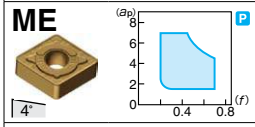
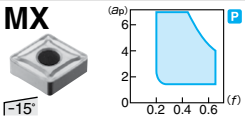
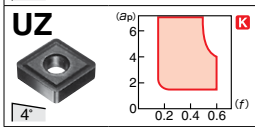
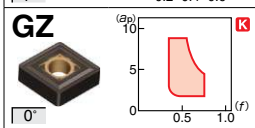
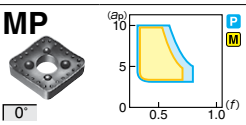
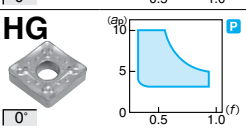
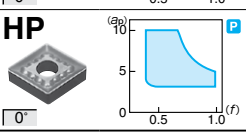
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

CN■■1606●●

- ℓ : 16.1
- s : 6.35
- ød : 15.875
- ød1 : 6.35

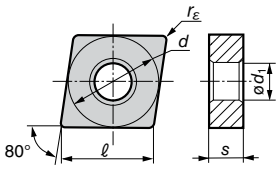
Recommended Application	Coat																															
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖			◔									✿	✿		◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K cast iron		✿							●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

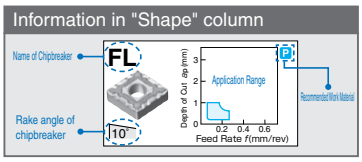
Applicable External Holders ☞ C7, 8

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	UG 	CNMG 160608N-UG	0.8			●																												
		CNMG 160612N-UG	1.2			●																												
		CNMG 160616N-UG	1.6		●	●																												
	EG 	CNMG 160612N-EG	1.2						●	●							●	●													●	●		
		CNMA 160608	0.8									●	●	●																				
		CNMA 160612	1.2									●	●	●	▲																			
		CNMA 160616	1.6									●	●	●																				
Medium-Rough Cut	MU 	CNMG 160608N-MU	0.8	●	●		▲																											
		CNMG 160612N-MU	1.2	●	●	●	▲		●								●	●																
		CNMG 160616N-MU	1.6	●	●	●	▲		●								●	●																
	EM 	CNMG 160612N-EM New	1.2							●	●																							
		CNMG 160616N-EM New	1.6							●	●																							
	ME 	CNMG 160608N-ME	0.8	●	●	●																												
		CNMG 160612N-ME	1.2	●	●	●																												
		CNMG 160616N-ME	1.6	●	●	●																												
	MX 	CNMG 160608N-MX	0.8		●		▲																											
		CNMG 160612N-MX	1.2		●	●	▲																											
		CNMG 160616N-MX	1.6		●	●	▲																											
	UZ 	CNMG 160608N-UZ	0.8		●	●	▲																											
		CNMG 160612N-UZ	1.2		●	●	▲					●	●	●	▲																			
		CNMG 160616N-UZ	1.6		●	●	▲					●	●	●	▲																			
	GZ 	CNMG 160608N-GZ	0.8									●	●	●																				
		CNMG 160612N-GZ	1.2									●	●	●																				
		CNMG 160616N-GZ	1.6									●	●	●																				
Rough Cut	MP 	CNMM 160608N-MP	0.8		●	●	▲										●																	
		CNMM 160612N-MP	1.2	●	●	●	▲										●																	
		CNMM 160616N-MP	1.6	●	●	●	▲										●																	
Heavy Cut	HG 	CNMM 160612N-HG	1.2	●	●	●	▲																											
		CNMM 160616N-HG	1.6	●	●	●	▲																											
	HP 	CNMM 160608N-HP	0.8		●	●																												
		CNMM 160612N-HP	1.2		●	●																												
		CNMM 160616N-HP	1.6		●	●																												

▲mark : To be replaced by new item

CN 80° Diamond Type Negative With Insert Hole





CN■■1906●●

- ℓ : 19.3
- s : 6.35
- ød : 19.05
- ød1 : 7.94

Applicable External Holders C7, 8

Applicable Internal Holders E46, 47

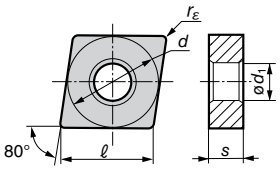
(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◒ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✿ : 2nd Choice

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Light-Medium Cut	EX (16°)	CNMG 190612N-EX	1.2													—	●	●			—	—	—	—	—	—	—							—
Light-Medium Cut	UP (10°)	CNMG 190612N-UP	1.2		●	●	▲									—					—	—	—	—	—	—	—				●			—
Medium Cut	GE (3°)	CNMG 190612N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		190616N-GE	1.6	●	●	●										—					—	—	—	—	—	—	—							—
Medium Cut	UX (0°)	CNMG 190608N-UX	0.8			●										—					—	—	—	—	—	—	—							—
		190612N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		190616N-UX	1.6	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
Medium Cut	UG (4°)	CNMG 190604N-UG	0.4													—					—	—	—	—	—	—	—							—
		190608N-UG	0.8			●										—					—	—	—	—	—	—	—							—
		190612N-UG	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
		190616N-UG	1.6		●	●										—					—	—	—	—	—	—	—							—
		190624N-UG	2.4													—					—	—	—	—	—	—	—							—
Medium Cut	EG (0°)	CNMG 190612N-EG New	1.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		190616N-EG New	1.6						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		CNMA 190608	0.8													—					—	—	—	—	—	—	—							—
		190612	1.2									●	●	●	▲	—					—	—	—	—	—	—	—							—
		190616	1.6									●	●	●	▲	—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MU (4°)	CNMG 190608N-MU	0.8			●										—					—	—	—	—	—	—	—							—
		190612N-MU	1.2	●	●	●	▲		●							—	●	●			—	—	—	—	—	—	—							—
		190616N-MU	1.6	●	●	●	▲		●							—	●	●			—	—	—	—	—	—	—							—
Medium-Rough Cut	EM (0°)	CNMG 190612N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
		190616N-EM New	1.6							●	●					—					—	—	—	—	—	—	—							—
Medium-Rough Cut	ME (4°)	CNMG 190612N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		190616N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MX (−15°)	CNMG 190612N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
		190616N-MX	1.6		●	●	▲									—					—	—	—	—	—	—	—							—
Medium-Rough Cut	UZ (4°)	CNMG 190608N-UZ	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		190612N-UZ	1.2		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—							—
		190616N-UZ	1.6		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CN 80° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

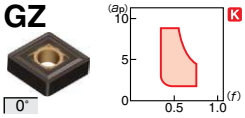
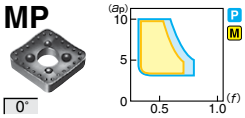
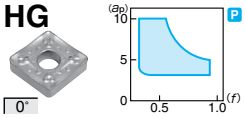
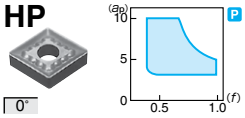
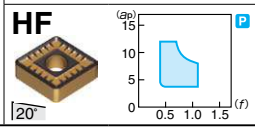
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CN■■1906●●

- ℓ : 19.3
- s : 6.35
- ød : 19.05
- ød1 : 7.94

Applicable External Holders C7, 8
Applicable Internal Holders E46, 47

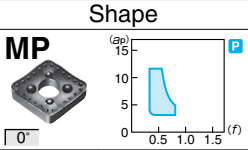
Recommended Application		Coat															Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel		●	◕	✖			◔									✪	✪		◕	✖		●	◕								
M stainless steel				✪		●	◔	◕	✖						◔	✪	✪														
K cast iron			✪							●	◕	✖			✪							●									
N non-ferrous metal																															◕
S exotic alloy															◕	✖															
H hardened steel														●																	

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium-Rough Cut	GZ 	CNMG 190612N-GZ	1.2									●	●	●		—					—	—	—	—	—	—	—							—
		190616N-GZ	1.6									●	●	●		—					—	—	—	—	—	—	—							—
Rough Cut	MP 	CNMM 190608N-MP	0.8		●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		190612N-MP	1.2	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		190616N-MP	1.6	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		190624N-MP	2.4	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
Heavy Cut	HG 	CNMM 190612N-HG	1.2	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		190616N-HG	1.6	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		190624N-HG	2.4	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
	HP 	CNMM 190608N-HP	0.8		●	●			●							—					—	—	—	—	—	—	—							—
		190612N-HP	1.2		●	●			●							—					—	—	—	—	—	—	—							—
		190616N-HP	1.6		●	●	▲		●							—					—	—	—	—	—	—	—							—
		190624N-HP	2.4		●	●			●							—					—	—	—	—	—	—	—							—
	HF 	CNMM 190616N-HF	1.6		●	●										—					—	—	—	—	—	—	—							—
		190624N-HF	2.4		●	●										—					—	—	—	—	—	—	—							—

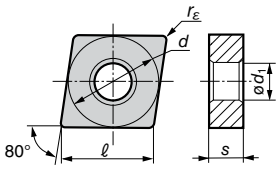
CN■■2507●●

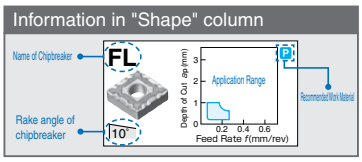
- ℓ : 25.8
- s : 7.94
- ød : 25.4
- ød1 : 9.2

Recommended Application		Coat															Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Rough Cut	MP 	CNMM 250724N-MP	2.4		●		▲									—					—	—	—	—	—	—	—							—

CN 80° Diamond Type Negative With Insert Hole





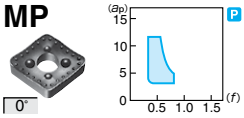
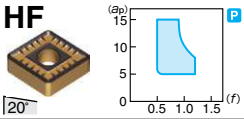
(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✖ : 2nd Choice

CN■■2509●●

• ℓ	: 25.8	• s	: 9.52
• ød	: 25.4	• ød1	: 9.2

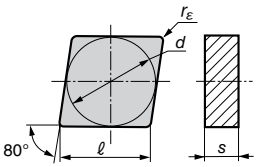
Applicable External Holders ☞ C7

Recommended Application		Coat																Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Rough Cut	MP 	CNMM 250924N-MP	2.4		●		▲									—					—	—	—	—	—	—	—							—
Heavy Cut	HF 	CNMM 250924N-HF	2.4		●	●										—					—	—	—	—	—	—	—							—
		250932N-HF	3.2		●	●										—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CN 80° Diamond Type Negative Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

CN■■0903●●

SUMIBORON (CBN) Inserts L33
Applicable External Holders L98

CN■■1204●●

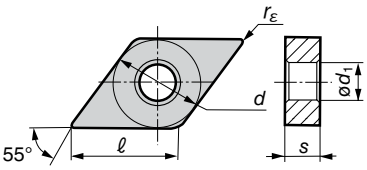
SUMIBORON (CBN) Inserts From L33
Applicable External Holders L98

55° DIAMOND TYPE
NEGATIVE INSERT

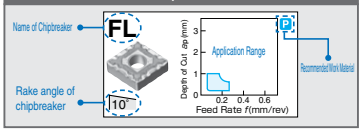
Indexable Inserts for Turning

DN

55° Diamond Type
Negative
With Insert Hole



Information in "Shape" column



(Legend)

Continuous Cut	● : 1st Choice ○ : 2nd Choice	Medium Cut: ◒ : 1st Choice ◔ : 2nd Choice
Interrupted Cut	✖ : 1st Choice ✪ : 2nd Choice	

DN■■1104●●

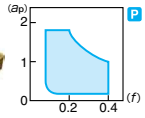
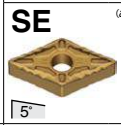
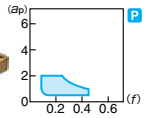
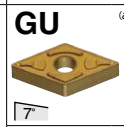
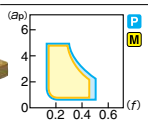
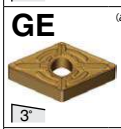
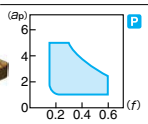
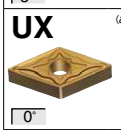
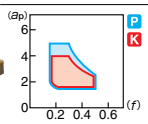
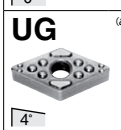
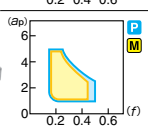
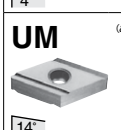
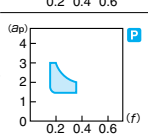
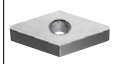
- ℓ : 11.6
- s : 4.76
- ød : 9.525
- ød1 : 3.81

Applicable External Holders ☞ C10

Applicable Internal Holders ☞ E65 to 67

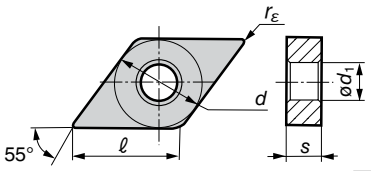
Recommended Application

P	steel	●	◒	✖			◔										✪	✪		◒	✖		●	◒									
M	stainless steel			✪		●	◔	◒	✖							◔	✪	✪															
K	cast iron		✪							●	◒	✖					✪						●										
N	non-ferrous metal																																◒
S	exotic alloy															◒	✖																
H	hardened steel														●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Finishing	LU 	DNMG 110404N-LU	0.4		●				●							—									●									
		DNMG 110408N-LU	0.8		●				●							—									●									
	SE  	DNMG 110408N-SE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
Medium Cut	GU  	DNMG 110404N-GU	0.4		●	●	▲		●	●						—									●									
		DNMG 110408N-GU	0.8		●	●	▲		●	●						—									●									
	GE  	DNMG 110408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
	UX  	DNMG 110408N-UX	0.8			●										—					—	—	—	—	—	—	—							—
	UG  	DNMG 110404N-UG	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		DNMG 110408N-UG	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
	UM  	DNGG 110404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲				●			
		DNGG 110404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲				●			
		DNGG 110408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲							
		DNGG 110408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲				●			
		DNGA 110404	0.4	—	—	—	—																											
		DNGA 110408	0.8	—	—	—	—																											

▲mark : To be replaced by new item

DN 55° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

DN■■1504●●

- ℓ : 15.5
- s : 4.76
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts From L44 | SUMIDIA (PCD) Inserts M10 | Ceramic Inserts B126
Applicable External Holders C9, 10 | Applicable Internal Holders E65 to E67

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

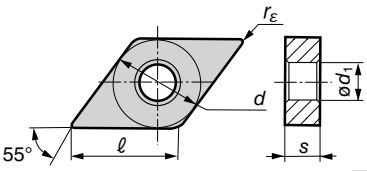
	Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	FA (P; 20°; ap 0–2; f 0.2–0.4)	DNMG 150404N-FA	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲	●	●	▲	▲	—	—	—	—	—	—	
		150408N-FA	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲	●	●		▲	—	—	—	—	—	—	
Fine Finishing	FL (P; 10°; ap 0–2; f 0.2–0.4)	DNMG 150404N-FL	0.4		●		▲		●							—					●	●	▲	●	●									
		150408N-FL	0.8		●		▲		●							—					●	●	▲	●	●									
		150412N-FL	1.2						●							—																		
Finishing	LU (P; 10°; ap 0–2; f 0.2–0.4)	DNMG 150402N-LU	0.2	●	●				●							—					●	●		●	●									
		150404N-LU	0.4	●	●	●	▲		●							—					●	●	▲	●	●		▲							
		150408N-LU	0.8	●	●	●	▲		●							—					●	●	▲	●	●		▲							
		150412N-LU	1.2	●	●	●	▲		●							—					●	●	▲		●		▲							
Finishing	SP (P; 13°; ap 0–2; f 0.2–0.4)	DNMG 150404N-SP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
		150408N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
Finishing	SU (P, M, S; 13°; ap 0–2; f 0.2–0.4)	DNMG 150402N-SU	0.2						●	●	●					—		●	●		●	●		●	●									
		150404N-SU	0.4	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
		150408N-SU	0.8	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
		150412N-SU	1.2	●	●		▲		●	●						—					●	●	▲	●	●		▲							
Finishing	SU (P; 13°; ap 0–2; f 0.2–0.4)	DNGG 150402N-SU	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●									
		150404N-SU	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●									
		150408N-SU	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●									
Finishing	SE (P; 5°; ap 0–6; f 0.2–0.4–0.6)	DNMG 150404N-SE	0.4	●	●	●										—					●			●	●									
		150408N-SE	0.8	●	●	●										—					●			●	●									
		150412N-SE	1.2	●	●	●										—					●			●	●									
		150416N-SE	1.6													—	—	—	—	—	—	—	—	—	—	—	—							—
Finishing	SEW (P; 5°; ap 0–4; f 0.2–0.5–0.8; →B18 Wiper)	DNMX 150404N-SEW	0.4	●	●											—					●		▲		●									
		150408N-SEW	0.8	●	●											—					●		▲		●									
		150412N-SEW	1.2	●	●											—	—	—	—	—	—	—	—	—	—	—	—							—
Finishing	EF (M, S; 20°; ap 0–2; f 0.2–0.4)	DNMG 150404N-EF	0.4						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		150408N-EF	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		150412N-EF New	1.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
Finishing	EF (M, S; 20°; ap 0–2; f 0.2–0.4)	DNGG 150404N-EF New	0.4						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
		150408N-EF New	0.8						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
Light-Medium Cut	SX (P; 3°; ap 0–2; f 0.2–0.4)	DNMG 150404N-SX	0.4	●	●	●	▲									—					●	●	▲		●		▲							
		150408N-SX	0.8	●	●	●	▲									—					●	●	▲		●		▲							
		150412N-SX	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
Light-Medium Cut	EX (M, S; 16°; ap 0–3; f 0.2–0.4)	DNMG 150404N-EX	0.4					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		150408N-EX	0.8					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		150412N-EX	1.2					●	●	●						—	●	●	●		—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

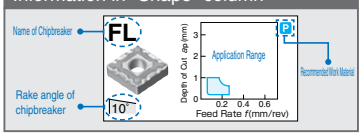
55° DIAMOND TYPE NEGATIVE INSERT

Indexable Inserts for Turning

DN 55° Diamond Type Negative With Insert Hole



Information in "Shape" column



(Legend)

Continuous Cut	● : 1st Choice	○ : 2nd Choice
Medium Cut	◕ : 1st Choice	◔ : 2nd Choice
Interrupted Cut	✖ : 1st Choice	✪ : 2nd Choice

DN■■1504●●

- ℓ : 15.5
- s : 4.76
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts From L44 | SUMIDIA (PCD) Inserts M10 | Ceramic Inserts B126

Applicable External Holders C9, 10 | Applicable Internal Holders E65 to E67

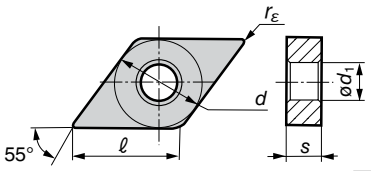
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut	UP (10°)	DNMG 150404N-UP	0.4		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		DNMG 150408N-UP	0.8		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		DNMG 150412N-UP	1.2		●	●	▲		●	●						—	●	●	●		—	—	—	—	—	—	—				●			—
		DNMG 150416N-UP	1.6													—					—	—	—	—	—	—	—							—
Medium Cut	GU (7°)	DNMG 150404N-GU	0.4	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
		DNMG 150408N-GU	0.8	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
		DNMG 150412N-GU	1.2	●	●	●	▲	●	●	●						—		●	●		●				●		▲							
		DNMG 150416N-GU	1.6		●											—																		
	GE (3°)	DNMG 150404N-GE	0.4	●	●	●										—					—	—	—	—	—	—	—							—
		DNMG 150408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		DNMG 150412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		DNMG 150416N-GE	1.6													—					—	—	—	—	—	—	—							—
	UX (0°)	DNMG 150404N-UX	0.4	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		DNMG 150408N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	▲							—
		DNMG 150410N-UX	1.0													—					—	—	—	—	—	—	—							—
		DNMG 150412N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
	UG (4°)	DNMG 150404N-UG	0.4			●										—											▲							
		DNMG 150408N-UG	0.8		●	●	▲									—											▲							
		DNMG 150412N-UG	1.2		●	●	▲									—											▲							
		DNMG 150416N-UG	1.6													—					—	—	—	—	—	—	—							—
	EG (0°)	DNMG 150404N-EG New	0.4						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		DNMG 150408N-EG	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		DNMG 150412N-EG	1.2						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	UM (14°)	DNMG 150404R-UM	0.4													—					●				●		▲							
		DNMG 150404L-UM	0.4													—					●				●		▲							
		DNMG 150408R-UM	0.8													—					●				●		▲							
		DNMG 150408L-UM	0.8													—					●				●		▲							
	UM (14°)	DNGG 150404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲	●			●			
		DNGG 150404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲	●			●			
		DNGG 150408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲	●			●			
		DNGG 150408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲				●			
		DNGG 150412R-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
		DNGG 150412L-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
		DNMA 150404	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		DNMA 150408	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		DNMA 150412	1.2									●	●	●	▲	—					—	—	—	—	—	—	—							—
		DNGA 150402 New	0.2	—	—	—	—									●																		
		DNGA 150404	0.4	—	—	—	—									●	●							●		▲					●			
		DNGA 150408	0.8	—	—	—	—									●								●		▲					●			
		DNGA 150412	1.2	—	—	—	—																											
Medium-Rough Cut	MU (4°)	DNMG 150408N-MU	0.8	●	●	●	▲	●	●							—	●	●	●		—	—	—	—	—	—	—							—
		DNMG 150412N-MU	1.2	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
		DNMG 150416N-MU	1.6		●	●	▲									—		●	●		—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

DN 55° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

DN■■1504●●

- ℓ : 15.5
- s : 4.76
- ød : 12.7
- ød₁ : 5.16

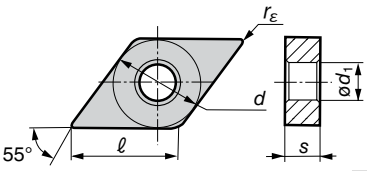
SUMIBORON (CBN) Inserts From L44 | SUMIDIA (PCD) Inserts M10 | Ceramic Inserts B126
Applicable External Holders C9, 10 | Applicable Internal Holders E65 to E67

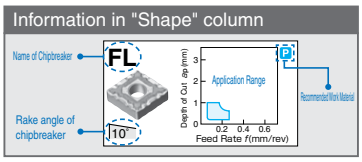
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium-Rough Cut	EM (M)	DNMG 150408N-EM New	0.8							●	●					—					—	—	—	—	—	—	—							—
		150412N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
		150416N-EM New	1.6							●	●					—					—	—	—	—	—	—	—							—
	ME (P)	DNMG 150408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		150412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		150416N-ME	1.6													—					—	—	—	—	—	—	—							—
	MX (P)	DNMG 150408N-MX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		150412N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
		150416N-MX	1.6													—					—	—	—	—	—	—	—							—
	UZ (K)	DNMG 150404N-UZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		150408N-UZ	0.8		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—		●	●	●			—
		150412N-UZ	1.2		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—				●			—
	GZ (K)	DNMG 150404N-GZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		150408N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		150412N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
	HM (P M K)	DNMG 150404R-HM	0.4	●	●	●			●	●						—					—	—	—	—	—	—	—							—
		150404L-HM	0.4		●				●	●						—					—	—	—	—	—	—	—							—
		150408R-HM	0.8	●	●	●			●	●						—					—	—	—	—	—	—	—							—
		150408L-HM	0.8		●				●	●						—					—	—	—	—	—	—	—							—
Rough Cut	MP (P)	DNMM 150404N-MP	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		150408N-MP	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
		150412N-MP	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
		150416N-MP	1.6	●	●											—					—	—	—	—	—	—	—							—
Heavy Cut	HP (P)	DNMM 150404N-HP	0.4		●	●										—					—	—	—	—	—	—	—							—
		150408N-HP	0.8		●	●										—					—	—	—	—	—	—	—							—
		150412N-HP	1.2		●	●										—					—	—	—	—	—	—	—							—
		150416N-HP	1.6		●											—					—	—	—	—	—	—	—							—
for Aluminium	AX (N)	DNGG 150402R-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		150402L-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		150404R-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		150404L-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		150408R-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		150408L-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
Light Cutting of Hardened Steel	GH (H)	DNGG 150402N-GH New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		150404N-GH New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		150408N-GH New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

▲mark : To be replaced by new item

DN 55° Diamond Type Negative With Insert Hole





(Legend)

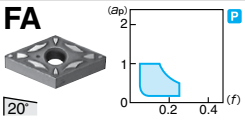
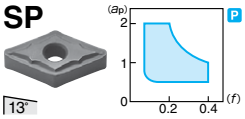
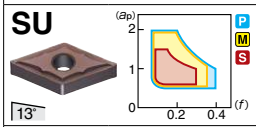
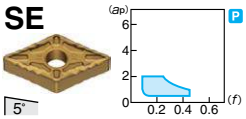
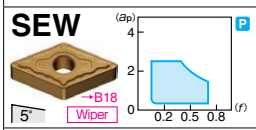
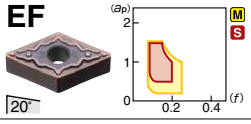
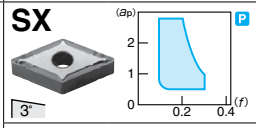
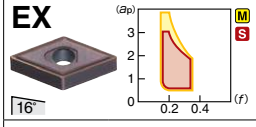
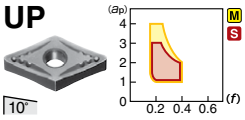
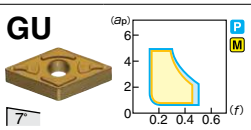
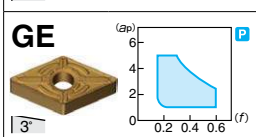
Continuous Cut	Medium Cut	Interrupted Cut
● : 1st Choice	◓ : 1st Choice	✖ : 1st Choice
○ : 2nd Choice	◔ : 2nd Choice	✿ : 2nd Choice

DN■■1506●●

- ℓ : 15.5
- s : 6.35
- ød : 12.7
- ød1 : 5.16

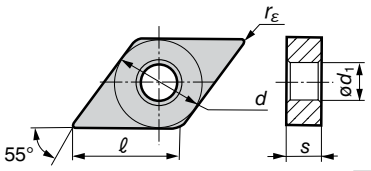
SUMIBORON (CBN) Inserts ☞ L48
Applicable External Holders ☞ C9, 10

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
			Coat																	Coated Cermet			Cermet				Carbide						
Fine Finishing																																	
FA  20°	DNMG 150604N-FA	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲	●	●		▲	—	—	—	—	—	—	
	150608N-FA	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲	●	●		▲	—	—	—	—	—	—	
Finishing																																	
SP  13°	DNMG 150604N-SP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150608N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
SU  13°	DNMG 150604N-SU	0.4		●		▲									—					●		▲	●	●		▲							
	150608N-SU	0.8		●	●	▲									—					●		▲	●	●		▲							
	150612N-SU	1.2		●	●	▲									—																		
SE  5°	DNMG 150604N-SE	0.4													—								●										
	150608N-SE	0.8													—								●										
	150612N-SE	1.2													—																		
	150616N-SE	1.6													—					—	—	—	—	—	—	—							—
SEW  5° →B18 Wiper	DNMX 150604N-SEW	0.4													—																		
	150608N-SEW	0.8													—																		
	150612N-SEW	1.2													—					—	—	—	—	—	—	—							—
EF  20°	DNMG 150604N-EF	0.4						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
	150608N-EF	0.8						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
	150612N-EF New	1.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
Light-Medium Cut																																	
SX  3°	DNMG 150604N-SX	0.4													—					●		▲		●		▲							
	150608N-SX	0.8													—					●		▲		●		▲							
EX  16°	DNMG 150604N-EX	0.4					●	●	●						—					—	—	—	—	—	—	—							—
	150608N-EX	0.8					●	●	●						—					—	—	—	—	—	—	—							—
	150612N-EX	1.2					●	●	●						—					—	—	—	—	—	—	—							—
UP  10°	DNMG 150604N-UP	0.4													—					—	—	—	—	—	—	—							—
	150608N-UP	0.8													—					—	—	—	—	—	—	—							—
	150612N-UP	1.2													—					—	—	—	—	—	—	—							—
	150616N-UP	1.6													—					—	—	—	—	—	—	—							—
Medium Cut																																	
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	●	●	●										—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

DN 55° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

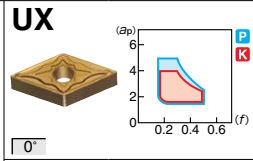
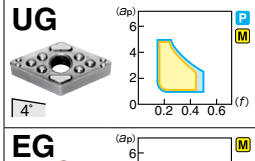
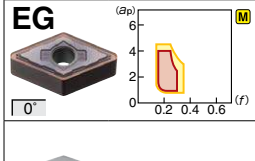
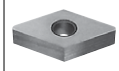
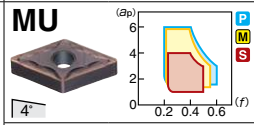
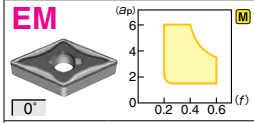
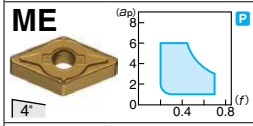
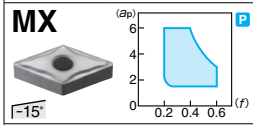
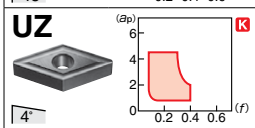
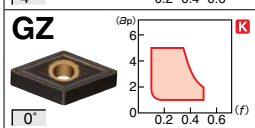
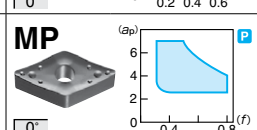
DN■■1506●●

- ℓ : 15.5
- s : 6.35
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts L48
Applicable External Holders C9, 10

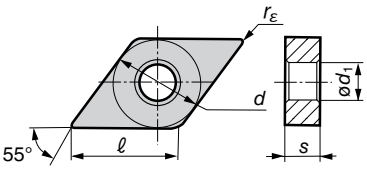
Recommended Application

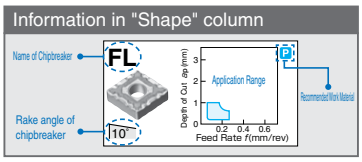
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	UX 	DNMG 150604N-UX	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		DNMG 150608N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		DNMG 150610N-UX	1.0													—					—	—	—	—	—	—	—							—
		DNMG 150612N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		DNMG 150616N-UX	1.6		●		▲									—					—	—	—	—	—	—	—							—
Medium Cut	UG 	DNMG 150604N-UG	0.4		●		▲									—											▲							—
		DNMG 150608N-UG	0.8		●	●	▲									—											▲							—
		DNMG 150612N-UG	1.2		●		▲									—																		—
		DNMG 150616N-UG	1.6		●											—					—	—	—	—	—	—	—							—
Medium Cut	EG 	DNMG 150604N-EG New	0.4						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		DNMG 150608N-EG	0.8						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		DNMG 150612N-EG	1.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		DNMA 150608	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		DNMA 150612	1.2									●	●	●	▲	—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MU 	DNMG 150608N-MU	0.8	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		DNMG 150612N-MU	1.2	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		DNMG 150616N-MU	1.6		●		▲									—					—	—	—	—	—	—	—							—
Medium-Rough Cut	EM 	DNMG 150608N-EM New	0.8							●	●					—					—	—	—	—	—	—	—							—
		DNMG 150612N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
Medium-Rough Cut	ME 	DNMG 150608N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		DNMG 150612N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		DNMG 150616N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MX 	DNMG 150608N-MX	0.8		●		▲									—					—	—	—	—	—	—	—							—
		DNMG 150612N-MX	1.2		●		▲									—					—	—	—	—	—	—	—							—
		DNMG 150616N-MX	1.6													—					—	—	—	—	—	—	—							—
Medium-Rough Cut	UZ 	DNMG 150608N-UZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		DNMG 150612N-UZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
Medium-Rough Cut	GZ 	DNMG 150608N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		DNMG 150612N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
Rough Cut	MP 	DNMM 150604N-MP	0.4		●		▲									—					—	—	—	—	—	—	—							—
		DNMM 150608N-MP	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
		DNMM 150612N-MP	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
		DNMM 150616N-MP	1.6	●	●											—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

DN 55° Diamond Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

DN■■1506●●

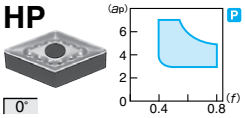
- ℓ : 15.5
- s : 6.35
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts ☞ L48

Applicable External Holders ☞ C9, 10

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖					◔	✪	✪																
K	cast iron	✪								●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

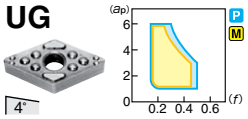
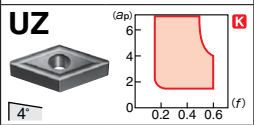
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cut	HP 	DNMM 150604N-HP	0.4		●																													
		150608N-HP	0.8		●	●																												
		150612N-HP	1.2		●	●																												
		150616N-HP	1.6		●																													

DN■■1906●●

- ℓ : 19.4
- s : 6.35
- ød : 15.875
- ød1 : 6.35

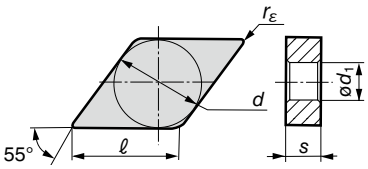
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖					◔	✪	✪																
K	cast iron	✪								●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	UG 	DNMG 190608N-UG	0.8																															
		190612N-UG	1.2																															
		190616N-UG	1.6																															
Medium-Rough Cut	UZ 	DNMG 190608N-UZ	0.8																															
		190612N-UZ	1.2																															
		190616N-UZ	1.6																															

▲mark : To be replaced by new item

DN 55° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

DN■■1103●●

SUMIBORON (CBN) Inserts L48
Applicable External Holders L99

DN■■1504●●

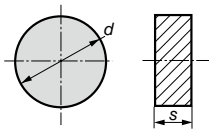
Ceramic Inserts B126

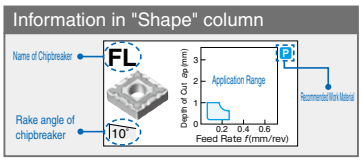
DN■■1507●●

Ceramic Inserts B126

RN

Round Type
Negative
Without Insert Hole



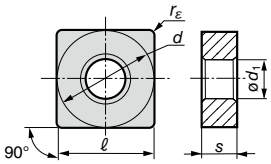


RN□□●●●●●

SUMIBORON (CBN) Inserts L54
Ceramic Inserts B126
Applicable External Holders L99

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

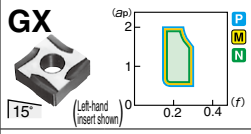
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SN■■S702●●

- ℓ : 7.14
- s : 2.38
- ød : 7.14
- ød1 : 2.97

Recommended Application

	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

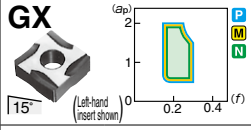
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX 	SNGG S70204R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			
		S70204L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—													●	●					▲
		S70208R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																▲			
		S70208L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—													●	●		●			●
For Chamfering	C *Insert is for chamfering so nose radius cannot be selected.	SNGG S70200-C	(0.8)	—	—	—	—	—	—	—	—	—	—	—	—													●	●		●			

SN■■07T2●●

- ℓ : 7.94
- s : 2.78
- ød : 7.94
- ød1 : 3.15

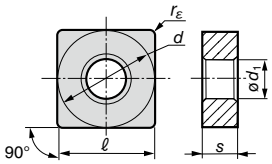
Recommended Application

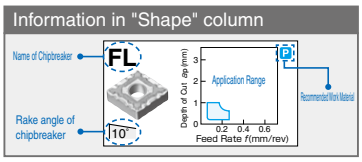
	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖				◔								✪	✪		◕	✖		●	◕									
M stainless steel			✪		●		◔	◕	✖					◔	✪	✪															
K cast iron		✪								●	◕	✖		✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	—	—	—	—	—	—	—	—	—	—	—	—													●	●		●			
For Chamfering	C *Insert is for chamfering so nose radius cannot be selected.	SNGG 07T200-C	(0.8)	—	—	—	—	—	—	—	—	—	—	—	—													●	●		●			

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole





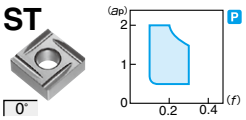
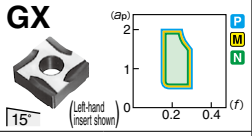
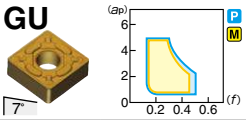
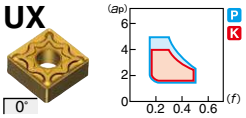
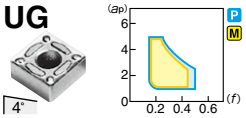
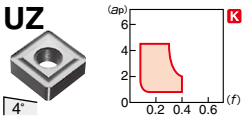
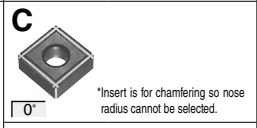
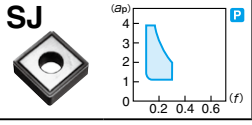
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◓ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SN■■0903●●

- ℓ : 9.525
- s : 3.18
- ød : 9.525
- ød1 : 3.81

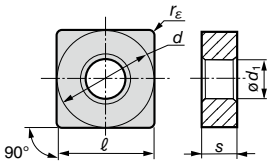
Applicable External Holders C14 to C18

Recommended Application	Coat																		Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	ST 	SNGG 090304R-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●		▲	●	●		●			
		SNGG 090304L-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	▲		●		●			
		SNGG 090308R-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●		▲	▲	●		●			
		SNGG 090308L-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●		▲		●		●			
	GX 	SNGG 090304R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				▲			
		SNGG 090304L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				▲			
		SNGG 090308R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●		●			
		SNGG 090308L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●		●			●
Medium Cut	GU 	SNMG 090304N-GU	0.4		●		▲									—					—	—	—	—	—	—	—							—
		SNMG 090308N-GU	0.8		●	●	▲									—					●				●									
	UX 	SNMG 090308N-UX	0.8			●										—					—	—	—	—	—	—	—							—
	UG 	SNMG 090308N-UG	0.8		●	●	▲									—											▲							
		SNMA 090304	0.4													—																		
		SNMA 090308	0.8													—																		
		SNGA 090304	0.4	—	—	—	—																								●			●
		SNGA 090308	0.8	—	—	—	—																								●			
Medium-Rough Cut	UZ 	SNMG 090312N-UZ	1.2													—					—	—	—	—	—	—	—							—
For Chamfering	C  *Insert is for chamfering so nose radius cannot be selected.	SNGG 090300-C	(0.8)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—								●	●		●			
	SJ 	SNMG 090304N-SJ	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	—	—	—	—	—	—	—

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

SN■■1204●●

- ℓ : 12.7
- s : 4.76
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts From L55
Ceramic Inserts B126
Applicable External Holders C13 to C18
Applicable Internal Holders E75, 76

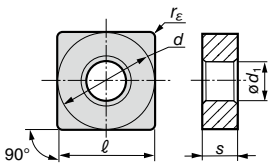
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

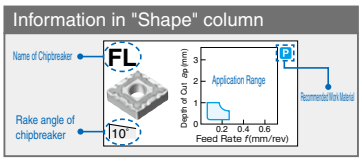
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	Coat															Coated Cermet			Cermet				Carbide						
				AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	FL (10°)	SNMG 120408N-FL	0.8		●		▲		●							—					●	●	▲		●									
Finishing	LU (10°)	SNMG 120408N-LU	0.8	●	●		▲		●							—					●	●	▲		●									
		120412N-LU	1.2	●	●		▲		●							—					●	●	▲		●									
	SP (13°)	SNMG 120408N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
	SU (13°)	SNMG 120404N-SU	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		120408N-SU	0.8	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
	SE (5°)	SNMG 120408N-SE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		120412N-SE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
	EF (20°)	SNMG 120404N-EF New	0.4							●	●					—					—	—	—	—	—	—	—							—
		120408N-EF New	0.8							●	●					—					—	—	—	—	—	—	—							—
Light Cutting	GX (15°) (Left-hand insert shown)	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-Medium Cut	SX (3°)	SNMG 120404N-SX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲		●		▲	—	—	—	—	—	—	
		120408N-SX	0.8	●	●	●	▲									—					●	●	▲		●		▲							
		120412N-SX	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
	EX (16°)	SNMG 120404N-EX	0.4					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		120408N-EX	0.8					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		120412N-EX	1.2					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
	UP (10°)	SNMG 120404N-UP	0.4		●	●	▲		●	●						—					—	—	—	—	—	—	—				●			—
		120408N-UP	0.8		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		120412N-UP	1.2		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
Medium Cut	GU (7°)	SNMG 120404N-GU	0.4	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
		120408N-GU	0.8	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
		120412N-GU	1.2	●	●	●	▲	●	●	●	●					—		●	●															
		120416N-GU	1.6		●	●	▲									—																		

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole





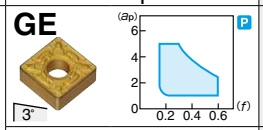
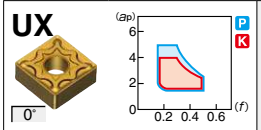
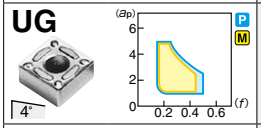
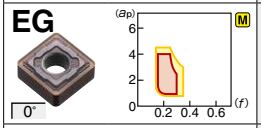
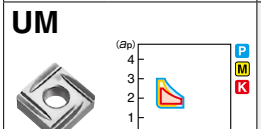
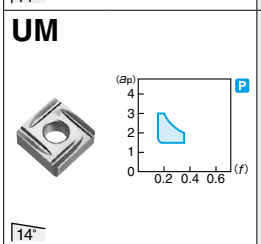
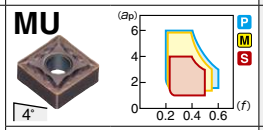
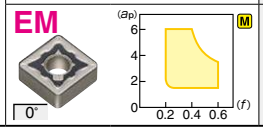
(Legend)
Continuous Cut ● : 1st Choice ○ : 2nd Choice
Medium Cut ◓ : 1st Choice ◔ : 2nd Choice
Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SN■■1204●●

- ℓ : 12.7
- s : 4.76
- ød : 12.7
- ød1 : 5.16

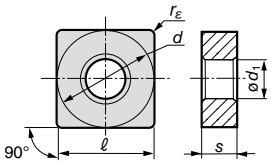
SUMIBORON (CBN) Inserts From L55
Ceramic Inserts B126
Applicable External Holders C13 to C18
Applicable Internal Holders E75, 76

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◓	✖			◔								✪	✪			◓	✖		●	◓									
M stainless steel			✪		●	◔	◓	✖						◔	✪	✪															
K cast iron		✪							●	◓	✖			✪							●										
N non-ferrous metal																															◓
S exotic alloy														◓	✖																
H hardened steel													●																		

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut																																	
GE 	SNMG 120408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SNMG 120412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SNMG 120416N-GE	1.6	●	●	●										—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
UX 	SNMG 120404N-UX	0.4			●										—					—	—	—	—	—	—	—							—
	SNMG 120408N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	▲							—
	SNMG 120412N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
	SNMG 120416N-UX	1.6	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
UG 	SNMG 120408N-UG	0.8		●	●	▲									—											▲	●		●				
	SNMG 120412N-UG	1.2		●	●	▲									—																		
	SNMG 120416N-UG	1.6			●										—					—	—	—	—	—	—	—							—
EG 	SNMG 120404N-EG New	0.4							●	●					—					—	—	—	—	—	—	—							—
	SNMG 120408N-EG	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	SNMG 120412N-EG	1.2						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
UM 	SNMG 120404R-UM	0.4													—									●		▲							
	SNMG 120404L-UM	0.4													—									●		▲							
	SNMG 120408R-UM	0.8													—									●		▲							
	SNMG 120408L-UM	0.8													—									●		▲							
	SNMG 120412R-UM	1.2													—									●		▲							
	SNMG 120412L-UM	1.2													—									●		▲							
UM 	SNGG 120404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲	▲	●		●			
	SNGG 120404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲	●	●		▲			
	SNGG 120408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—		●							●	●	▲	▲	●	●	●	●			
	SNGG 120408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—		●							●	●	▲	▲	●	●	●	●			
	SNGG 120412R-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲							
	SNGG 120412L-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
	SNGG 120416R-UM	1.6	—	—	—	—	—	—	—	—	—	—	—	—																			
	SNGG 120416L-UM	1.6	—	—	—	—	—	—	—	—	—	—	—	—																			
	SNMA 120404	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
	SNMA 120408	0.8									●	●	●	▲	—					—			—	—	—	—				●			●
	SNMA 120412	1.2									●	●	●	▲	—					—			—	—	—	—				▲			
	SNMA 120416	1.6									●	●	●	▲	—					—			—	—	—	—							
	SNMA 120420	2.0									●	●	●	▲	—					—			—	—	—	—							
	SNGA 120404	0.4	—	—	—	—									●															●			
	SNGA 120408	0.8	—	—	—	—									●															●			●
	SNGA 120412	1.2	—	—	—	—																	●		▲					●			
Medium-Rough Cut																																	
MU 	SNMG 120408N-MU	0.8	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
	SNMG 120412N-MU	1.2	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
	SNMG 120416N-MU	1.6		●	●	▲									—					—	—	—	—	—	—	—							—
EM 	SNMG 120408N-EM New	0.8							●	●					—					—	—	—	—	—	—	—							—
	SNMG 120412N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ● : 1st Choice ◐ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SN■■1204●●

- ℓ : 12.7
- s : 4.76
- ød : 12.7
- ød1 : 5.16

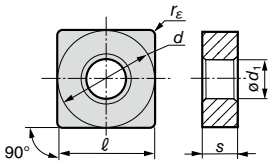
SUMIBORON (CBN) Inserts ☞ From L55
Ceramic Inserts ☞ B126
Applicable External Holders ☞ C13 to C18
Applicable Internal Holders ☞ E75, 76

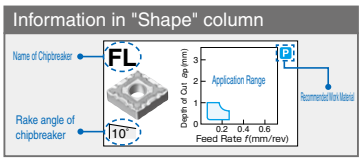
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Medium Cut	ME	SNMG 120408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		120412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		120416N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
	MX	SNMG 120408N-MX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		120412N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
		120416N-MX	1.6		●		▲									—					—	—	—	—	—	—	—							—
	UZ	SNMG 120408N-UZ	0.8		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—	●	●	●	●			—
		120412N-UZ	1.2		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—			●	●			—
		120416N-UZ	1.6		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—				●			—
	GZ	SNMG 120408N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		120412N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		120416N-GZ	1.6		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
	HM	SNMG 120408R-HM	0.8	●	●	●			●	●						—					—	—	—	—	—	—	—							—
		120408L-HM	0.8	●	●	●			●	●						—					—	—	—	—	—	—	—							—
	MM	SNGG 120408R-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—																		
		120408L-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—																		
Rough Cut	MP	SNMM 120408N-MP	0.8	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		120412N-MP	1.2	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		120416N-MP	1.6	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		120420N-MP	2.0		●											—					—	—	—	—	—	—	—							—
Heavy Cut	HG	SNMM 120408N-HG	0.8	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		120412N-HG	1.2	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		120416N-HG	1.6	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
	HP	SNMM 120408N-HP	0.8		●	●	▲		●							—					—	—	—	—	—	—	—							—
		120412N-HP	1.2		●	●	▲		●							—					—	—	—	—	—	—	—							—
		120416N-HP	1.6		●	●			●							—					—	—	—	—	—	—	—							—
For Chamfering	C	SNGG 120400-C	(0.8)	—	—	—	—	—	—	—	—	—	—	—	—	—													●		●			●
	SJ	SNMG 120404N-SJ	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	—	—	—	—	—	—	—
for Aluminium	AX	SNGG 120404R-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		120404L-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		120408R-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		120408L-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◓ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

SN■■1506●●

- ℓ : 15.875
- s : 6.35
- ød : 15.875
- ød1 : 6.35

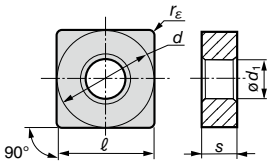
Applicable External Holders C13 to C16

Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut	EX 16°	SNMG 150612N-EX	1.2													—	●	●			—	—	—	—	—	—	—							—
Medium Cut	GU 7°	SNMG 150612N-GU	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
Medium Cut	UG 4°	SNMG 150612N-UG	1.2			●										—					—	—	—	—	—	—	—							—
Medium Cut	EG 0°	SNMG 150612N-EG New	1.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
Medium Cut		SNMA 150612	1.2									●	●	●		—					—	—	—	—	—	—	—							—
Medium Cut		150616	1.6									●	●	●		—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MU 4°	SNMG 150612N-MU	1.2	●	●	●	▲		●							—	●	●			—	—	—	—	—	—	—							—
Medium-Rough Cut		150616N-MU	1.6	●	●		▲		●							—	●	●			—	—	—	—	—	—	—							—
Medium-Rough Cut	EM 0°	SNMG 150612N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
Medium-Rough Cut		150616N-EM New	1.6							●	●					—					—	—	—	—	—	—	—							—
Medium-Rough Cut	ME 4°	SNMG 150612N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
Medium-Rough Cut		150616N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MX -15°	SNMG 150612N-MX	1.2		●		▲									—					—	—	—	—	—	—	—							—
Medium-Rough Cut		150616N-MX	1.6		●		▲									—					—	—	—	—	—	—	—							—
Medium-Rough Cut	UZ 4°	SNMG 150612N-UZ	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
Medium-Rough Cut		150616N-UZ	1.6													—					—	—	—	—	—	—	—							—
Medium-Rough Cut	GZ 0°	SNMG 150612N-GZ	1.2									●	●	●		—					—	—	—	—	—	—	—							—
Medium-Rough Cut		150616N-GZ	1.6									●	●	●		—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

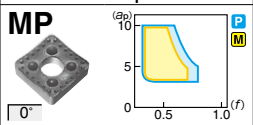
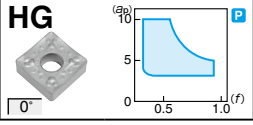
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SN■■1506●●

- ℓ : 15.875
- s : 6.35
- ød : 15.875
- ød1 : 6.35

Applicable External Holders ☞ C13 to C16

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

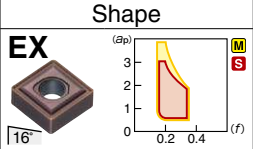
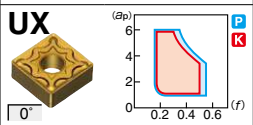
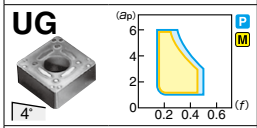
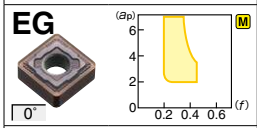
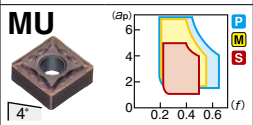
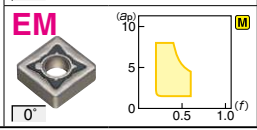
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cut	MP 	SNMM 150612N-MP	1.2	●	●											—					—	—	—	—	—	—	—							—
		150616N-MP	1.6	●	●											—					—	—	—	—	—	—	—							—
	HG 	SNMM 150616N-HG	1.6	●	●											—					—	—	—	—	—	—	—							—

SN■■1906●●

- ℓ : 19.05
- s : 6.35
- ød : 19.05
- ød1 : 7.94

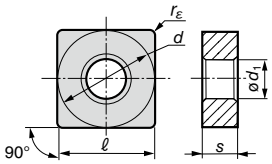
Applicable External Holders ☞ C13 to C16 | Applicable Internal Holders ☞ E75, 76

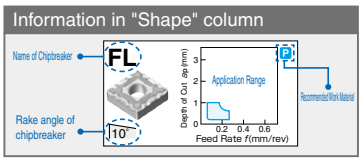
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut	EX 	SNMG 190612N-EX	1.2													—	●	●			—	—	—	—	—	—	—							—
Medium Cut	UX 	SNMG 190612N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		190616N-UX	1.6	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
	UG 	SNMG 190612N-UG	1.2			●										—					—	—	—	—	—	—	—							—
		190616N-UG	1.6			●										—					—	—	—	—	—	—	—							—
	EG 	SNMG 190612N-EG New	1.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		190616N-EG New	1.6						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		SNMA 190612	1.2									●	●	●		—					—	—	—	—	—	—	—							—
		190616	1.6									●	●	●		—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MU 	SNMG 190612N-MU	1.2	●	●	●	▲		●							—	●	●			—	—	—	—	—	—	—							—
		190616N-MU	1.6	●	●	●	▲		●							—	●	●			—	—	—	—	—	—	—							—
	EM 	SNMG 190612N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
		190616N-EM New	1.6							●	●					—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◓ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

SN■■1906●●

- ℓ : 19.05
- s : 6.35
- ød : 19.05
- ød1 : 7.94

Applicable External Holders C13 to C16
Applicable Internal Holders E75, 76

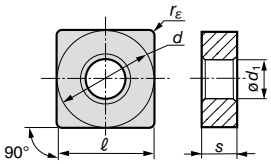
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium-Rough Cut	ME	SNMG 190612N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		190616N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
	MX	SNMG 190612N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
		190616N-MX	1.6		●	●	▲									—					—	—	—	—	—	—	—							—
	UZ	SNMG 190608N-UZ	0.8													—					—	—	—	—	—	—	—							—
		190612N-UZ	1.2		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—			●				—
		190616N-UZ	1.6		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—							—
	GZ	SNMG 190612N-GZ	1.2									●	●	●		—					—	—	—	—	—	—	—							—
		190616N-GZ	1.6									●	●	●		—					—	—	—	—	—	—	—							—
Heavy Cut	MP	SNMM 190612N-MP	1.2	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
		190616N-MP	1.6	●	●	●	▲		●	●						—	●				—	—	—	—	—	—	—							—
	HG	SNMM 190612N-HG	1.2	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		190616N-HG	1.6	●	●	●	▲		●							—					—	—	—	—	—	—	—							—
		190624N-HG	2.4		●	●	▲		●							—					—	—	—	—	—	—	—							—
	HP	SNMM 190612N-HP	1.2		●	●	▲		●							—					—	—	—	—	—	—	—							—
		190616N-HP	1.6		●	●	▲		●							—					—	—	—	—	—	—	—							—
	HF	SNMM 190616N-HF	1.6		●	●										—					—	—	—	—	—	—	—							—
		190624N-HF	2.4		●	●										—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

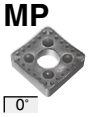
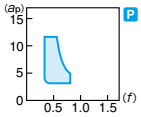
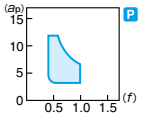
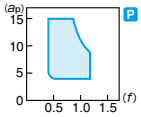
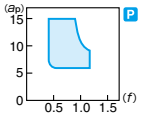
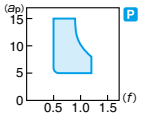
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

SN■■2507●●

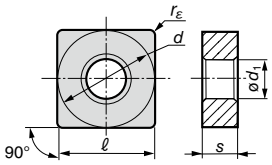
- ℓ : 25.4
- s : 7.94
- ød : 25.4
- ød1 : 9.2

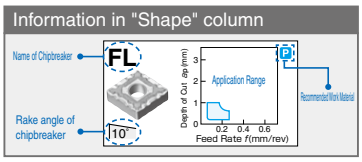
Applicable External Holders C13 to C16

Recommended Application	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✿	✿		◕	✖		●	◕									
M stainless steel			✿			●	◔	◕	✖					◔	✿	✿															
K cast iron		✿								●	◕	✖		✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel																															

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	UG 4°	SNMG 250724N-UG	2.4																		—	—	—	—	—	—	—							—
Heavy Cut	MP  0° 	SNMM 250724N-MP	2.4	●	●	●	▲	▲		●	●										—	—	—	—	—	—	—							—
Heavy Cut	HP 0° 	SNMM 250724N-HP	2.4	●	●	●	▲	▲		●											—	—	—	—	—	—	—							—
Heavy Cut	HU -15° 	SNMM 250724N-HU	2.4	●	●		▲			●											—	—	—	—	—	—	—							—
Heavy Cut	HW -15° 	SNMM 250724N-HW	2.4	●	●		▲			●											—	—	—	—	—	—	—							—
Heavy Cut	HF 20° 	SNMM 250724N-HF	2.4		●	●				●											—	—	—	—	—	—	—							—
		250732N-HF	3.2		●	●															—	—	—	—	—	—	—							—

SN Square Type Negative With Insert Hole





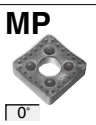
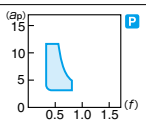
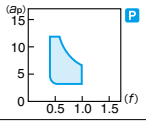
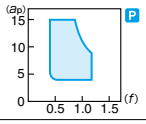
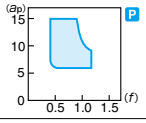
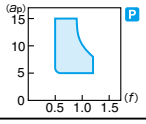
(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

SN■■2509●●

- ℓ : 25.4
- s : 9.52
- ød : 25.4
- ød1 : 9.2

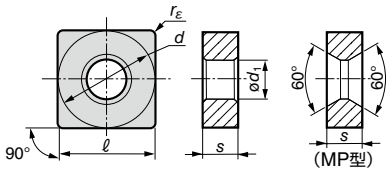
Applicable External Holders C13, 14

Recommended Application		AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖				◔								✪	✪		◕	✖		●	◕									
M	stainless steel			✪			●	◔	◕	✖					◔	✪	✪															
K	cast iron		✪								●	◕	✖		✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel																															

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	UG 4°	SNMG 250924N-UG	2.4			●															—	—	—	—	—	—	—							—
Medium-Rough Cut	UZ 4°	SNMG 250924N-UZ	2.4																		—	—	—	—	—	—	—							—
Heavy Cut	MP  0° 	SNMM 250924N-MP	2.4	●	●		▲			●	●										—	—	—	—	—	—	—							—
Heavy Cut	HP 0° 	SNMM 250924N-HP	2.4	●	●		▲	▲		●											—	—	—	—	—	—	—							—
Heavy Cut	HU -15° 	SNMM 250924N-HU	2.4	●	●		▲			●											—	—	—	—	—	—	—							—
Heavy Cut	HW -15° 	SNMM 250924N-HW	2.4	●	●		▲			●											—	—	—	—	—	—	—							—
Heavy Cut	HF 20° 	SNMM 250924N-HF	2.4		●	●				●											—	—	—	—	—	—	—							—
		250932N-HF	3.2		●	●															—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SN Square Type Negative With Insert Hole



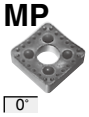
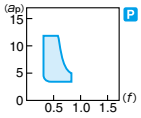
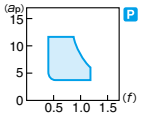
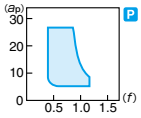
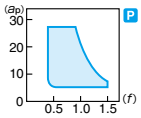
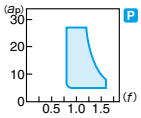
Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

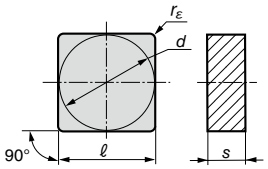
SN■■3109●●

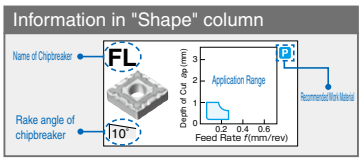
- ℓ : 31.75
- s : 9.52
- ød : 31.75
- ød1 : 8.8

Recommended Application	Coat																		Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cut	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		●	●															—	—	—	—	—	—	—							—

SN Square Type Negative Without Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SN■■0903●●

- ℓ : 9.525
- s : 3.18
- ød : 9.525

SUMIBORON (CBN) Inserts From L56

Applicable External Holders L98

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P steel		●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M stainless steel				✪		●	◔	◕	✖					◔	✪	✪																
K cast iron			✪							●	◕	✖			✪							●										
N non-ferrous metal																																◕
S exotic alloy															◕	✖																
H hardened steel														●																		

	Shape	Cat. No.	r_ε
Medium Cut		SNGN 090304	0.4
		090308	0.8
		090312	1.2

SN■■1203●●

- ℓ : 12.7
- s : 3.18
- ød : 12.7

SUMIBORON (CBN) Inserts L57

Applicable External Holders L98

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P steel		●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M stainless steel				✪		●	◔	◕	✖					◔	✪	✪																
K cast iron			✪							●	◕	✖			✪							●										
N non-ferrous metal																																◕
S exotic alloy															◕	✖																
H hardened steel														●																		

	Shape	Cat. No.	r_ε
Medium Cut		SNGN 120304	0.4
		120308	0.8
		120312	1.2

SN■■1204●●

- ℓ : 12.7
- s : 4.76
- ød : 12.7

SUMIBORON (CBN) Inserts L58

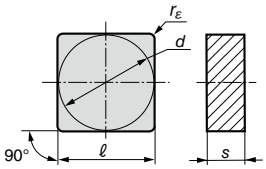
Applicable External Holders L98

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	T250A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P steel		●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M stainless steel				✪		●	◔	◕	✖					◔	✪	✪																
K cast iron			✪							●	◕	✖			✪							●										
N non-ferrous metal																																◕
S exotic alloy														◕	✖																	
H hardened steel																																

	Shape	Cat. No.	r_ε
Medium Cut		SNMN 120404	0.4
		120408	0.8
		120412	1.2
		120416	1.6
		120420	2.0
		120424	2.4
Medium Cut		SNGN 120404	0.4
		120408	0.8
		120412	1.2
		120416	1.6

▲mark : To be replaced by new item

SN Square Type Negative Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

SN■■1207●●

- ℓ : 12.7
- s : 7.94
- ød : 12.7

Ceramic Inserts B126

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✿	✿		◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K cast iron		✿							●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SNGN 120708	0.8	—	—	—	—																											
		120712	1.2	—	—	—	—																											
		120716	1.6	—	—	—	—																											
		120720	2.0	—	—	—	—																											

SN■■1504●●

- ℓ : 15.875
- s : 4.76
- ød : 15.875

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✿	✿		◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K cast iron		✿							●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SNMN 150408	0.8													—												●			●			
		150412	1.2													—																		
		SNGN 150408	0.8	—	—	—	—																											
		150412	1.2	—	—	—	—																											
		150416	1.6	—	—	—	—																											

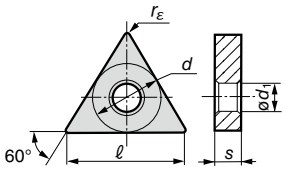
SN■■1904●●

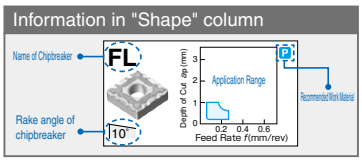
- ℓ : 19.05
- s : 4.76
- ød : 19.05

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✿	✿		◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K cast iron		✿							●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SNMN 190412	1.2													—														●	●			
		SNGN 190402	0.2	—	—	—	—																											
		190404	0.4	—	—	—	—																											
		190408	0.8	—	—	—	—																											
		190412	1.2	—	—	—	—																											
		190416	1.6	—	—	—	—																											

TN Triangular Type Negative With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TN■■0902●●

- ℓ : 9.6
- s : 2.38
- ød : 5.56
- ød₁ : 2.57

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting, GX (15°, Left-hand insert shown)	TNGG 090204R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			
	TNGG 090204L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—														●		●			●
	TNGG 090208R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																			
	TNGG 090208L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—														▲		▲			

TN■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35
- ød₁ : 2.26

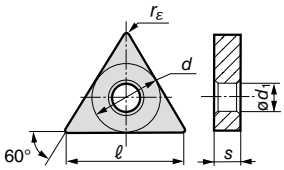
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

Applicable External Holders C22 to C24

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing, FT (0°)	TNGG 110302R-FT	0.2	—	—	—	—	—	—	—	—	—	—	—	—										●	●		▲	●						
	TNGG 110302L-FT	0.2	—	—	—	—	—	—	—	—	—	—	—	—										●	●		▲							
	TNGG 110304R-FT	0.4	—	—	—	—	—	—	—	—	—	—	—	—										●	●	▲	▲	●	●					
	TNGG 110304L-FT	0.4	—	—	—	—	—	—	—	—	—	—	—	—										●	●		▲							
	TNGG 110308R-FT	0.8	—	—	—	—	—	—	—	—	—	—	—	—																				
	TNGG 110308L-FT	0.8	—	—	—	—	—	—	—	—	—	—	—	—																				
Light Cutting, GX (15°, Left-hand insert shown)	TNGG 110302R-GX	0.2	—	—	—	—	—	—	—	—	—	—	—	—																				
	TNGG 110302L-GX	0.2	—	—	—	—	—	—	—	—	—	—	—	—																				
	TNGG 110304R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																●				
	TNGG 110304L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																●				
	TNGG 110308R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																				
	TNGG 110308L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																				
Medium Cut	TNMA 110304	0.4													—					—	—	—	—	—	—	—								—
	TNMA 110308	0.8													—					—	—	—	—	—	—	—								—
	TNGA 110302	0.2	—	—	—	—																								●				
	TNGA 110304	0.4	—	—	—	—																								●				●
	TNGA 110308	0.8	—	—	—	—																	●		▲					●				

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TN■■11T2●●

- ℓ : 11.0
- s : 2.78
- ød : 6.35
- ød1 : 2.76

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Coat																				Coated Cermet			Cermet				Carbide						
Light Cutting, GX (15°, Left-hand insert shown)	TNGG 11T204R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																●			
	TNGG 11T204L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—														●		●			●
	TNGG 11T208R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																●			
	TNGG 11T208L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—														●		●			
Medium Cut	TNGA 11T204	0.4	—	—	—	—																											●

TN■■1303●●

- ℓ : 13.7
- s : 3.18
- ød : 7.94
- ød1 : 3.15

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Coat																				Coated Cermet			Cermet				Carbide						
Light Cutting, GX (15°, Left-hand insert shown)	TNGG 130304R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																●			
	TNGG 130304L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																●			●
	TNGG 130308R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—														●		●			
	TNGG 130308L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—														●		●			●

TN■■1603●●

- ℓ : 16.5
- s : 3.18
- ød : 9.525
- ød1 : 3.81

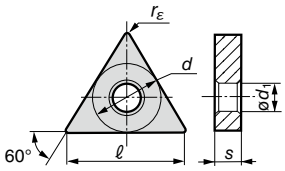
Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

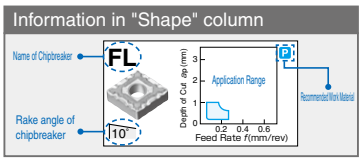
Applicable External Holders C22 to C24

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Coat																				Coated Cermet			Cermet				Carbide						
Light Cutting, ST (0°)	TNGG 160302R-ST	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲							
	TNGG 160302L-ST	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲							
	TNGG 160304R-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲		●					
	TNGG 160304L-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲	●						
	TNGG 160308R-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲							
	TNGG 160308L-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲		▲					
Light-Medium Cut, SX (3°)	TNMG 160304N-SX	0.4		●		▲									—																		
	TNMG 160308N-SX	0.8		●	●	▲									—																		

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TN■■1603●●

- ℓ : 16.5
- s : 3.18
- ød : 9.525
- ød1 : 3.81

Applicable External Holders C22 to C24

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		TNMA 160304	0.4													—					—	—	—	—	—	—	—							—
		160308	0.8													—					—	—	—	—	—	—	—							—
		160312	1.2													—					—	—	—	—	—	—	—							—
		TNGA 160302	0.2	—	—	—	—																											
		160304	0.4	—	—	—	—																								●			●
		160308	0.8	—	—	—	—																								●			
		160312	1.2	—	—	—	—																											

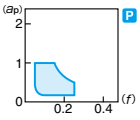
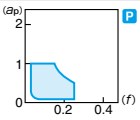
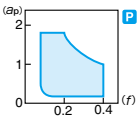
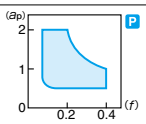
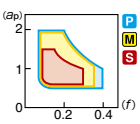
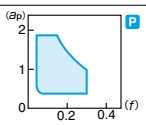
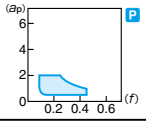
TN■■1604●●

- ℓ : 16.5
- s : 4.76
- ød : 9.525
- ød1 : 3.81

SUMIBORON (CBN) Inserts Front 1,2,3; SUMIDIA (PCD) Inserts M14; Ceramic Inserts B126

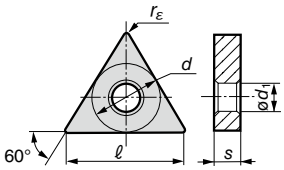
Applicable External Holders C19 to 25, D15, 18; Applicable Internal Holders E33 to E35

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	FA 	TNMG 160402N-FA	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲							
		160404N-FA	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲							
		160408N-FA	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲							
		160412N-FA	1.2													—	—	—			—	—	—	—	—	—	—							—
	FL 	TNMG 160404N-FL	0.4		●		▲		●							—					●	●	▲	●	●									
		160408N-FL	0.8		●		▲		●							—					●	●	▲	●	●									
Finishing	LU 	TNMG 160402N-LU	0.2						●							—					●	●		●	●									
		160404N-LU	0.4	●	●	●	▲		●							—					●	●	▲	●	●		▲							
		160408N-LU	0.8	●	●	●	▲		●							—					●	●	▲	●	●		▲							
		160412N-LU	1.2	●	●	●	▲		●							—					●	●	▲		●		▲							
	SP 	TNMG 160404N-SP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
		160408N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
	SU 	TNMG 160402N-SU	0.2						●	●	●					—		●	●		●	●		●	●									
		160404N-SU	0.4	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
		160408N-SU	0.8	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
		160412N-SU	1.2	●	●		▲		●	●						—	●	●	●		●	●	▲	●	●		▲							
	SU 	TNGG 160402N-SU	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●		▲							
		160404N-SU	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●		▲							
		160408N-SU	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●			●	●	▲	●	●		▲							
	SE 	TNMG 160404N-SE	0.4	●	●	●										—					●			●	●									
		160408N-SE	0.8	●	●	●										—					●			●	●									
		160412N-SE	1.2	●	●	●										—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

TN■■1604●●

- ℓ : 16.5
- s : 4.76
- ød : 9.525
- ød1 : 3.81

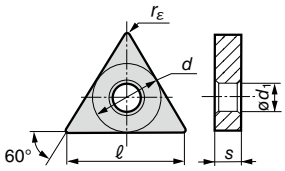
SUMIBORON (CBN) Inserts ☞ From L82 | SUMIDIA (PCD) Inserts ☞ M14 | Ceramic Inserts ☞ B126
Applicable External Holders ☞ C19 to 25, D15, 18 | Applicable Internal Holders ☞ E33 to E35

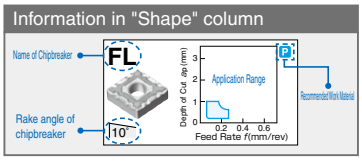
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	Coat															Coated Cermet			Cermet				Carbide					
				AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	EF (20°)	TNMG 160404N-EF	0.4						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		TNMG 160408N-EF	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	FY (15°)	TNGG 160401R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●			—	—	—	—	—	—	
		TNGG 160401L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●			—	—	—	—	—	—	
		TNGG 160402R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160402L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160404R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160404L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160408R-FY	0.8	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●									
		TNGG 160408L-FY	0.8	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●									
		TNGG 160412R-FY	1.2	—	—	—	—	—	—	—	—	—	—	—	—						●				●			—	—	—	—	—	—	
		TNGG 160412L-FY	1.2	—	—	—	—	—	—	—	—	—	—	—	—						●				●			—	—	—	—	—	—	
	FX (14°)	TNGG 160402R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160402L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160404R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
		TNGG 160404L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●	●	●	▲	●	●		▲							
Light Cutting	ST (0°) (Left-hand insert shown)	TNGG 160402R-ST	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●									
		TNGG 160402L-ST	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●									
		TNGG 160404R-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●									
		TNGG 160404L-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●									
		TNGG 160408R-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●									
		TNGG 160408L-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●									
		TNGG 160412R-ST	1.2	—	—	—	—	—	—	—	—	—	—	—	—										●									
		TNGG 160412L-ST	1.2	—	—	—	—	—	—	—	—	—	—	—	—										●									
	GX (15°) (Left-hand insert shown)	TNGG 160404R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—														●		●			
		TNGG 160404L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—																●			●
		TNGG 160408R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																●			
		TNGG 160408L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—														●		●			●
		TNGG 160412R-GX	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 160412L-GX	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
Light-Medium Cut	SX (3°)	TNMG 160404N-SX	0.4	●	●	●	▲									—					●	●	▲		●		▲							
		TNMG 160408N-SX	0.8	●	●	●	▲									—					●	●	▲		●		▲							
		TNMG 160412N-SX	1.2													—					—	—	—	—	—	—	—							—
		TNMG 160416N-SX	1.6													—					—	—	—	—	—	—	—							—
	EX (16°)	TNMG 160404N-EX	0.4					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		TNMG 160408N-EX	0.8					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		TNMG 160412N-EX	1.2					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
	UP (10°)	TNMG 160404N-UP	0.4		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		TNMG 160408N-UP	0.8		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—				●			—
		TNMG 160412N-UP	1.2		●		▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

TN■■1604●●

- ℓ : 16.5
- s : 4.76
- ød : 9.525
- ød₁ : 3.81

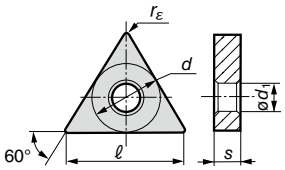
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

SUMIBORON (CBN) Inserts ☞ Front L02 | SUMIDIA (PCD) Inserts ☞ M14 | Ceramic Inserts ☞ B126
Applicable External Holders ☞ C19 to 25, D15, 18 | Applicable Internal Holders ☞ E33 to E35

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
			Coat																	Coated Cermet			Cermet				Carbide						
Medium Cut																																	
GU (7°, P M)	TNMG 160404N-GU	0.4	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
	TNMG 160408N-GU	0.8	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
	TNMG 160412N-GU	1.2	●	●	●	▲	●	●	●	●					—		●	●															
	TNMG 160416N-GU	1.6		●	●	▲									—																		
GE (3°, P)	TNMG 160404N-GE	0.4	●	●	●										—					—	—	—	—	—	—	—							—
	TNMG 160408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
	TNMG 160412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
UX (0°, P K)	TNMG 160404N-UX	0.4	●	●	●	▲								▲	—					—	—	—	—	—	—	▲							—
	TNMG 160408N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	▲							—
	TNMG 160412N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
UG (4°, P M)	TNMG 160404N-UG	0.4		●	●	▲									—											▲	●						
	TNMG 160408N-UG	0.8		●	●	▲									—											▲			●				
	TNMG 160412N-UG	1.2		●	●	▲									—																		
	TNMG 160416N-UG	1.6		●	●	▲									—					—	—	—	—	—	—	—							—
EG (0°, M)	TNMG 160404N-EG New	0.4							●	●					—					—	—	—	—	—	—	—							—
	TNMG 160408N-EG	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	TNMG 160412N-EG	1.2						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
UM (14°, P M K)	TNMG 160404R-UM	0.4													—					●	●	▲	●	●	▲	▲							
	TNMG 160404L-UM	0.4													—					●	●	▲	●	●	▲	▲							
	TNMG 160408R-UM	0.8													—					●	●	▲	●	●	▲	▲							
	TNMG 160408L-UM	0.8													—					●	●	▲	●	●	▲	▲							
UM (14°, P)	TNGG 160402R-UM	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	●	●	▲	▲	●	●		●			
	TNGG 160402L-UM	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	●	●	▲	▲		●		●			
	TNGG 160404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	●	●	▲	▲	●	●	●	●			●
	TNGG 160404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	●	●	▲	▲	●	●	●	●			●
	TNGG 160408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	●	●	▲	▲	●	●	●	●			●
	TNGG 160408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	●	●	▲	▲	●	●	●	●			●
	TNGG 160412R-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲		●					
	TNGG 160412L-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲							
	TNGG 160416R-UM	1.6	—	—	—	—	—	—	—	—	—	—	—	—																			
	TNGG 160416L-UM	1.6	—	—	—	—	—	—	—	—	—	—	—	—																			
	TNMA 160404	0.4									●	●	●	▲	—	●														●			
	TNMA 160408	0.8									●	●	●	▲	—	●														●			●
	TNMA 160412	1.2									●	●	●	▲	—					—	—	—	—	—	—	—				●			—
	TNMA 160416	1.6									●	●	●	▲	—					—	—	—	—	—	—	—							—
	TNMA 160420	2.0									●	●	●	▲	—					—	—	—	—	—	—	—							—
	TNGA 160402 New	0.2	—	—	—	—									●																		
	TNGA 160404	0.4	—	—	—	—									●	●							●		▲					●			●
	TNGA 160408	0.8	—	—	—	—									●								●	●	▲	▲				●			●
	TNGA 160412	1.2	—	—	—	—																								●			
	TNGA 160416	1.6	—	—	—	—																											

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

TN■■1604●●

- ℓ : 16.5
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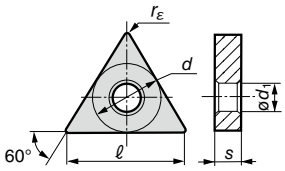
SUMIBORON (CBN) Inserts ☞ From L82
SUMIDIA (PCD) Inserts ☞ M14
Ceramic Inserts ☞ B126
Applicable External Holders ☞ C19 to 25, D15, 18
Applicable Internal Holders ☞ E33 to E35

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

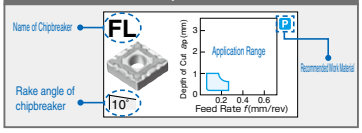
	Shape	Cat. No.	r_ε	Coat															Coated Cermet			Cermet				Carbide						
				AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium-Rough Cut	MU (4°)	TNMG 160408N-MU	0.8	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
		TNMG 160412N-MU	1.2	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
	EM (0°)	TNMG 160408N-EM New	0.8							●	●					—					—	—	—	—	—	—	—							—
		TNMG 160412N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
	ME (4°)	TNMG 160408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		TNMG 160412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
	MX (-15°)	TNMG 160408N-MX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		TNMG 160412N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
	UZ (4°)	TNMG 160404N-UZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMG 160408N-UZ	0.8		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—			●				—
		TNMG 160412N-UZ	1.2		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMG 160416N-UZ	1.6		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMG 160420N-UZ	2.0		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
	GZ (0°)	TNMG 160404N-GZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMG 160408N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMG 160412N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
	HM (15°)	TNMG 160404R-HM	0.4	●	●	●			●	●						—	●				—	—	—	—	—	—	—							—
		TNMG 160404L-HM	0.4	●	●	●			●	●						—	●				—	—	—	—	—	—	—							—
		TNMG 160408R-HM	0.8	●	●	●			●	●						—	●				—	—	—	—	—	—	—							—
		TNMG 160408L-HM	0.8	●	●	●			●	●						—	●				—	—	—	—	—	—	—							—
	MM (10°)	TNGG 160404R-MM	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 160404L-MM	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 160408R-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 160408L-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—																			
Heavy Cut	MP (0°)	TNMM 160404N-MP	0.4		●		▲									—					—	—	—	—	—	—	—							—
		TNMM 160408N-MP	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMM 160412N-MP	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMM 160416N-MP	1.6													—					—	—	—	—	—	—	—							—
	HP (0°)	TNMM 160408N-HP	0.8		●	●										—					—	—	—	—	—	—	—							—
		TNMM 160412N-HP	1.2		●	●										—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole



Information in "Shape" column



(Legend)

Continuous Cut	● : 1st Choice ○ : 2nd Choice	
Medium Cut	◕ : 1st Choice ◔ : 2nd Choice	
Interrupted Cut	✖ : 1st Choice ✖ : 2nd Choice	

TN■■1604●●

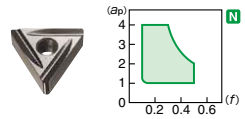
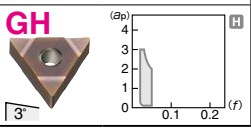
- ℓ : 16.5
- s : 4.76
- ød : 9.525
- ød₁ : 3.81

SUMIBORON (CBN) Inserts ☞ Front L02 | SUMIDIA (PCD) Inserts ☞ M14 | Ceramic Inserts ☞ B126

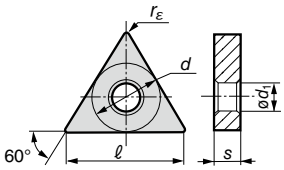
Applicable External Holders ☞ C19 to 25, D15, 18 | Applicable Internal Holders ☞ E33 to E35

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖					◔	✪	✪																
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
for Aluminium	AX 	TNGG 160402R-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TNGG 160402L-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TNGG 160404R-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TNGG 160404L-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TNGG 160408R-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TNGG 160408L-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
Light Cutting of Hardened Steel	GH 	TNGG 160402N-GH New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TNGG 160404N-GH New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TNGG 160408N-GH New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TN Triangular Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TN■■2204●●

- ℓ : 22.0
- s : 4.76
- ød : 12.7
- ød1 : 5.16

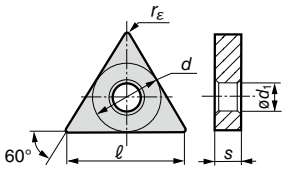
SUMIBORON (CBN) Inserts From L66
Applicable External Holders C20 to C25
Applicable Internal Holders E33, 35

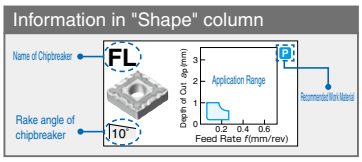
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

	Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SE	TNMG 220404N-SE	0.4	●	●	●										—					—	—	—	—	—	—	—							—
		TNMG 220408N-SE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		TNMG 220412N-SE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
Light Cutting	GX	TNGG 220408R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																●			
		TNGG 220408L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																			
Light-Medium Cut	SX	TNMG 220404N-SX	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		TNMG 220408N-SX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		TNMG 220412N-SX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
	UP	TNMG 220408N-UP	0.8		●	●	▲									—	●	●			—	—	—	—	—	—	—				●			—
		TNMG 220412N-UP	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
Medium Cut	GU	TNMG 220404N-GU	0.4		●		▲									—					—	—	—	—	—	—	—							—
		TNMG 220408N-GU	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMG 220412N-GU	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
	GE	TNMG 220408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		TNMG 220412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
	UX	TNMG 220408N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
		TNMG 220412N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
	UG	TNMG 220408N-UG	0.8		●	●	▲									—											▲							
		TNMG 220412N-UG	1.2		●	●	▲									—																		
		TNMG 220416N-UG	1.6													—					—	—	—	—	—	—	—							—
	UM	TNMG 220404R-UM	0.4													—									●		▲							
		TNMG 220404L-UM	0.4													—									●		▲							
		TNMG 220408R-UM	0.8													—									●		▲							
		TNMG 220408L-UM	0.8													—									●		▲							
	UM	TNGG 220404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲	●	●		●			
		TNGG 220404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲	●	●		●			
		TNGG 220408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲	▲		●		●			
		TNGG 220408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲		●		●			
		TNMA 220404	0.4													—																		
		TNMA 220408	0.8									●	●	●	▲	—															●			
		TNMA 220412	1.2									●	●	●	▲	—					—	—	—	—	—	—	—				●			—
		TNMA 220416	1.6									●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMA 220420	2.0													—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◒ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✪ : 2nd Choice

TN■■2204●●

- ℓ : 22.0
- s : 4.76
- ød : 12.7
- ød₁ : 5.16

SUMIBORON (CBN) Inserts From L66

Applicable External Holders C20 to C25

Applicable Internal Holders E33, 35

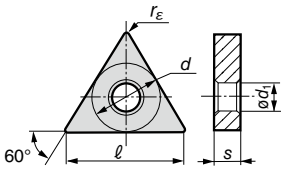
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		TNGA 220404	0.4	—	—	—	—																							●			
		TNGA 220408	0.8	—	—	—	—																						▲	●			●
		TNGA 220412	1.2	—	—	—	—																											
		TNGA 220416	1.6	—	—	—	—																											
Medium-Rough Cut	MU (P, M, S; 4°)	TNMG 220408N-MU	0.8	●	●	●	▲									—	●	●			—	—	—	—	—	—	—							—
		TNMG 220412N-MU	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMG 220416N-MU	1.6	●	●	●	▲									—					—	—	—	—	—	—	—							—
	ME (P; 4°)	TNMG 220408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		TNMG 220412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
		TNMG 220416N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
	MX (P; -15°)	TNMG 220408N-MX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
		TNMG 220412N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
	UZ (K; 4°)	TNMG 220408N-UZ	0.8		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—			●	●			—
		TNMG 220412N-UZ	1.2		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—			●				—
		TNMG 220416N-UZ	1.6		●	●						●	●	●	▲	—					—	—	—	—	—	—	—							—
		TNMG 220420N-UZ	2.0													—					—	—	—	—	—	—	—							—
	GZ (K; 0°)	TNMG 220408N-GZ	0.8									●	●	●		—					—	—	—	—	—	—	—							—
		TNMG 220412N-GZ	1.2									●	●	●		—					—	—	—	—	—	—	—							—
		TNMG 220416N-GZ	1.6									●	●	●		—					—	—	—	—	—	—	—							—
	HM (P, M, K; 15°)	TNMG 220404R-HM	0.4	●	●	●			●							—					—	—	—	—	—	—	—							—
		TNMG 220404L-HM	0.4	●	●	●			●							—					—	—	—	—	—	—	—							—
		TNMG 220408R-HM	0.8	●	●	●			●							—					—	—	—	—	—	—	—							—
		TNMG 220408L-HM	0.8	●	●	●			●							—					—	—	—	—	—	—	—							—
	MM (P; 10°)	TNGG 220404R-MM	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 220404L-MM	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 220408R-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—														●					
		TNGG 220408L-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—														●					
		TNGG 220412R-MM	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 220412L-MM	1.2	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 220416R-MM	1.6	—	—	—	—	—	—	—	—	—	—	—	—																			
		TNGG 220416L-MM	1.6	—	—	—	—	—	—	—	—	—	—	—	—																			
Heavy Cut	MP (P; 0°)	TNMM 220408N-MP	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMM 220412N-MP	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMM 220416N-MP	1.6	●	●	●	▲									—					—	—	—	—	—	—	—							—
	HG (P; 0°)	TNMM 220408N-HG	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMM 220412N-HG	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
		TNMM 220416N-HG	1.6	●	●	●	▲									—					—	—	—	—	—	—	—							—
	HP (P; 0°)	TNMM 220408N-HP	0.8		●	●										—					—	—	—	—	—	—	—							—
		TNMM 220412N-HP	1.2		●	●										—					—	—	—	—	—	—	—							—
		TNMM 220416N-HP	1.6		●											—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

TN Triangular Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

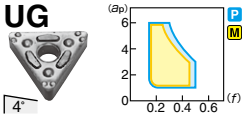
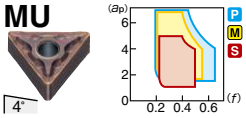
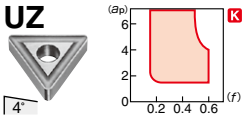
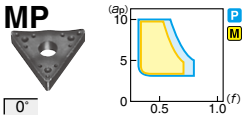
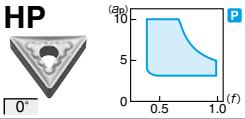
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

TN■■2706●●

- ℓ : 27.5
- s : 6.35
- ød : 15.875
- ød1 : 6.35

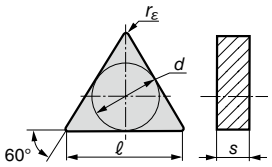
Recommended Application	Coat																			Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖			◔									✿	✿		◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K cast iron		✿							●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

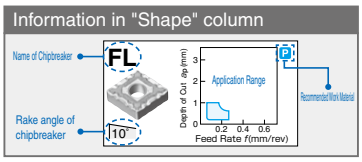
Applicable External Holders C20, 21

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	UG 	TNMG 270608N-UG	0.8																		—	—	—	—	—	—	—							—
		TNMG 270612N-UG	1.2																		—	—	—	—	—	—	—							—
		TNMG 270616N-UG	1.6																		—	—	—	—	—	—	—							—
Medium-Rough Cut	MU 	TNMG 270612N-MU	1.2		●	●	▲														—	—	—	—	—	—	—							—
		TNMG 270616N-MU	1.6		●		▲														—	—	—	—	—	—	—							—
	UZ 	TNMG 270608N-UZ	0.8		●		▲														—	—	—	—	—	—	—							—
		TNMG 270612N-UZ	1.2		●		▲														—	—	—	—	—	—	—							—
		TNMG 270616N-UZ	1.6		●	●															—	—	—	—	—	—	—							—
Heavy Cut	MP 	TNMM 270612N-MP	1.2		●																—	—	—	—	—	—	—							—
		TNMM 270616N-MP	1.6		●																—	—	—	—	—	—	—							—
	HP 	TNMM 270612N-HP	1.2		●	●															—	—	—	—	—	—	—							—
		TNMM 270616N-HP	1.6		●	●															—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

TN Triangular Type Negative Without Insert Hole





(Legend)
Continuous Cut ● : 1st Choice ○ : 2nd Choice
Medium Cut ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut ✖ : 1st Choice ✖ : 2nd Choice

TN□□1103●●

SUMIBORON (CBN) Inserts L67
Applicable External Holders L98

TN□□1603●●

- ℓ : 16.5
- s : 3.18
- ød : 9.525

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✖	✖		◕	✖		●	◕									
M	stainless steel			✖		●	◔	◕	✖						◔	✖	✖															
K	cast iron	✖								●	◕	✖			✖							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		TNMN 160304	0.4													—																		
		TNMN 160308	0.8													—																		
Medium Cut		TNGN 160304	0.4	—	—	—	—																											
		TNGN 160308	0.8	—	—	—	—																											
		TNGN 160312	1.2	—	—	—	—																											

TN□□1604●●

- ℓ : 16.5
- s : 4.76
- ød : 9.525

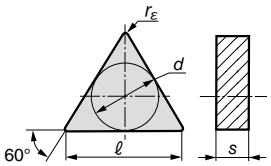
SUMIBORON (CBN) Inserts L67
Applicable External Holders L98

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✖	✖		◕	✖		●	◕									
M	stainless steel			✖		●	◔	◕	✖						◔	✖	✖															
K	cast iron	✖								●	◕	✖			✖							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		TNMN 160404	0.4													—															●			
		TNMN 160408	0.8									●	●	●	▲	—													●		●			
		TNMN 160412	1.2									●	●	●	▲	—																		
		TNMN 160416	1.6									●	●	●	▲	—																		
		TNMN 160420	2.0													—																		
Medium Cut		TNGN 160404	0.4	—	—	—	—																											
		TNGN 160408	0.8	—	—	—	—																								●			
		TNGN 160412	1.2	—	—	—	—																											

▲mark : To be replaced by new item

TN Triangular Type Negative Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

TN■■1607●●

- ℓ : 16.5
- s : 7.94
- ød : 9.525

Ceramic Inserts B126

Recommended Application	Coat															Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		**TNGN 160712**	1.2	—	—	—	—																											

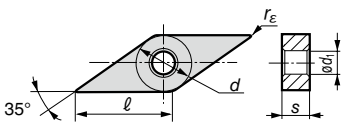
TN■■2204●●

- ℓ : 22.0
- s : 4.76
- ød : 12.7
- ød₁ :

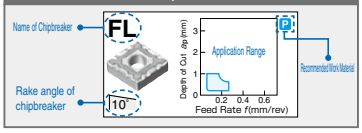
Recommended Application	Coat															Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖			◔									✿	✿		◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K cast iron		✿							●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		**TNMN 220408**	0.8													—												●		●				
		220412	1.2													—																		
		220416	1.6													—																		
		TNGN 220404	0.4	—	—	—	—																											
		220408	0.8	—	—	—	—																											
		220412	1.2	—	—	—	—																											
		220416	1.6	—	—	—	—																											

VN 35° Diamond Type Negative With Insert Hole



Information in "Shape" column



(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◓ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

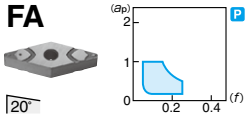
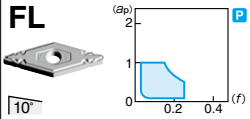
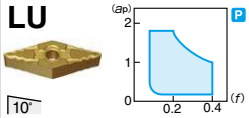
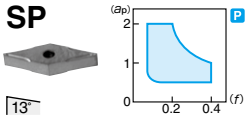
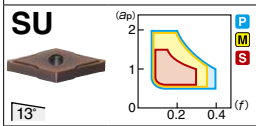
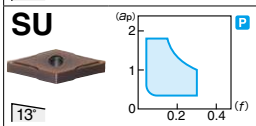
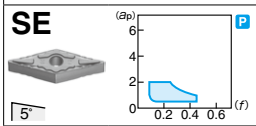
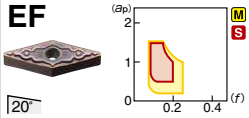
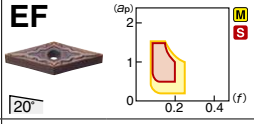
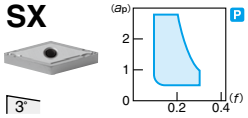
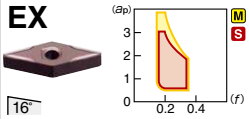
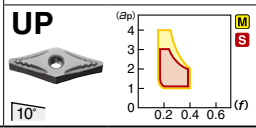
VN■■1604●●

- ℓ : 16.6
- s : 4.76
- ød : 9.525
- ød₁ : 3.81

SUMIBORON (CBN) Inserts From L63 SUMIDIA (PCD) Inserts M20 Ceramic Inserts B126

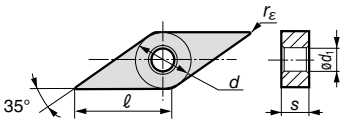
Applicable External Holders C26

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◓	✖			◔									✪	✪		◓	✖		●	◓									
M stainless steel			✪		●	◔	◓	✖						◔	✪	✪															
K cast iron		✪							●	◓	✖			✪							●										
N non-ferrous metal																															◓
S exotic alloy														◓	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	FA 	VNMG 160404N-FA	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
		VNMG 160408N-FA	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●		▲	—	—	—	—	—	—	—
	FL 	VNMG 160404N-FL	0.4		●		▲		●							—					●	●	▲	●	●									
		VNMG 160408N-FL	0.8		●		▲		●							—					●	●	▲	●	●									
		VNMG 160412N-FL	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—								—	—	—	—	—	—		
Finishing	LU 	VNMG 160402N-LU	0.2						●							—					●	●		●	●									
		VNMG 160404N-LU	0.4	●	●		▲		●							—					●	●	▲	●	●									
		VNMG 160408N-LU	0.8	●	●		▲		●							—					●	●	▲	●	●									
		VNMG 160412N-LU	1.2	●												—					—	—	—	—	—	—	—								—
	SP 	VNMG 160404N-SP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
		VNMG 160408N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
	SU 	VNMG 160402N-SU	0.2						●	●	●					—		●	●		●	●		●	●									
		VNMG 160404N-SU	0.4	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
		VNMG 160408N-SU	0.8	●	●	●	▲		●	●	●					—	●	●	●		●	●	▲	●	●	▲	▲							
	SU 	VNGG 160402N-SU	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—					●	●	▲	●	●									
		VNGG 160404N-SU	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●	●	▲	●	●									
		VNGG 160408N-SU	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—					●	●	▲	●	●									
	SE 	VNMG 160404N-SE	0.4	●	●	●										—					●			●	●									
		VNMG 160408N-SE	0.8	●	●	●										—					●			●	●									
	EF 	VNMG 160402N-EF New	0.2						●	●						—	●	●			—	—	—	—	—	—	—					●	●	—
		VNMG 160404N-EF	0.4						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
		VNMG 160408N-EF	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	EF 	VNGG 160402N-EF New	0.2						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
		VNGG 160404N-EF New	0.4						●	—	—					—	●	●			—	—	—	—	—	—	—					●	●	—
Light-Medium Cut	SX 	VNMG 160404N-SX	0.4	●	●	●	▲									—					●				●									
		VNMG 160408N-SX	0.8	●	●	●	▲									—					●				●									
		VNMG 160412N-SX	1.2													—					—	—	—	—	—	—	—								—
	EX 	VNMG 160404N-EX	0.4					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		VNMG 160408N-EX	0.8					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
	UP 	VNMG 160404N-UP	0.4		●	●	▲		●	●						—					—	—	—	—	—	—	—				●			—
		VNMG 160408N-UP	0.8		●	●	▲		●	●						—					—	—	—	—	—	—	—				●			—

▲mark : To be replaced by new item

VN 35° Diamond Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

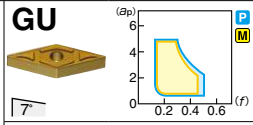
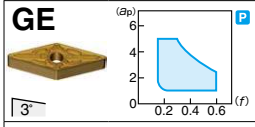
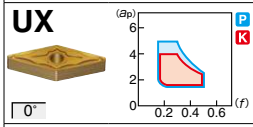
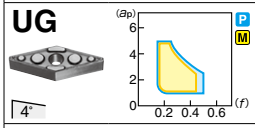
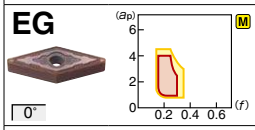
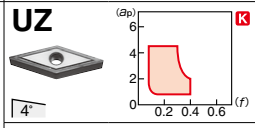
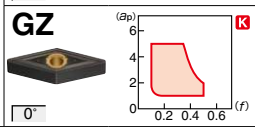
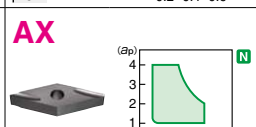
VN■■1604●●

- ℓ : 16.6
- s : 4.76
- ød : 9.525
- ød₁ : 3.81

SUMIBORON (CBN) Inserts From L83 | SUMIDIA (PCD) Inserts M20 | Ceramic Inserts B126
Applicable External Holders C26

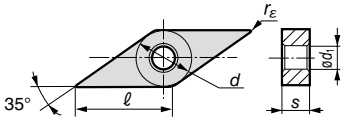
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖							✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

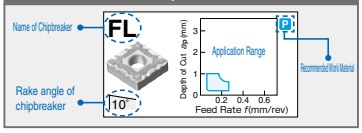
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut	GU 	VNMG 160404N-GU	0.4	●	●	●	▲	●	●	●	●				—		●	●		●				●		▲							
		VNMG 160408N-GU	0.8	●	●	●	▲	●	●	●	●				—		●	●		●				●		▲							
		VNMG 160412N-GU	1.2		●	●	▲				●				—		●	●															
	GE 	VNMG 160404N-GE	0.4	●	●	●									—						—	—	—	—	—	—	—						—
		VNMG 160408N-GE	0.8	●	●	●									—						—	—	—	—	—	—	—						—
		VNMG 160412N-GE	1.2	●	●	●									—						—	—	—	—	—	—	—						—
	UX 	VNMG 160404N-UX	0.4	●	●	●	▲							▲	—						—	—	—	—	—	—	—						—
		VNMG 160408N-UX	0.8	●	●	●	▲							▲	—						—	—	—	—	—	—	—						—
		VNMG 160412N-UX	1.2	●	●	●	▲							▲	—						—	—	—	—	—	—	—						—
	UG 	VNMG 160404N-UG	0.4		●	●	▲								—											▲							
		VNMG 160408N-UG	0.8		●	●	▲								—											▲							
	EG 	VNMG 160404N-EG New	0.4							●	●				—						—	—	—	—	—	—	—						—
		VNMG 160408N-EG New	0.8						●	●	●				—	●	●				—	—	—	—	—	—	—					●	●	—
		VNMG 160412N-EG New	1.2							●	●				—						—	—	—	—	—	—	—							—
		VNMA 160404	0.4									●	●	●	▲	—					—	—	—	—	—	—	—						—
		VNMA 160408	0.8									●	●	●	▲	—					—	—	—	—	—	—	—						—
		VNMA 160412	1.2									●	●	●	▲	—					—	—	—	—	—	—	—						—
Medium-Rough Cut	UZ 	VNMG 160404N-UZ	0.4		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—	●	●		●			—
		VNMG 160408N-UZ	0.8		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—	●	●		●			—
		VNMG 160412N-UZ	1.2		●	●	▲					●	●	●	▲	—					—	—	—	—	—	—	—	●			●			—
	GZ 	VNMG 160404N-GZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		VNMG 160408N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		VNMG 160412N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
for Aluminium	AX 	VNGG 160402R-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VNGG 160402L-AX New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VNGG 160404R-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VNGG 160404L-AX New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VNGG 160408R-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VNGG 160408L-AX New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

▲mark : To be replaced by new item

VN 35° Diamond Type Negative With Insert Hole



Information in "Shape" column

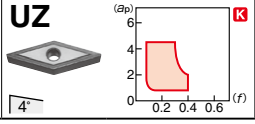


VN■■2204●●

- ℓ : 22.1
- s : 4.76
- ød : 12.7
- ød₁ : 5.16

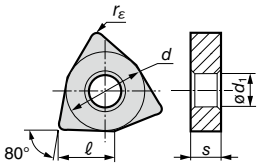
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

推奨用途	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε
Medium-Rough Cut	UZ 	VNMG 220408N-UZ	0.8
		220412N-UZ	1.2

▲mark : To be replaced by new item

WN Trigon Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

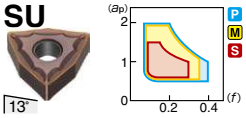
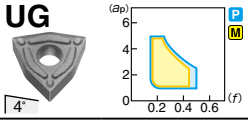
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

WN■■06T3●●

- ℓ : 6.5
- s : 3.97
- ød : 9.525
- ød1 : 3.81

Recommended Application

	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SU 	WNMG 06T304N-SU	0.4		●		▲									—					—	—	—	—	—	—	—							—
		06T308N-SU	0.8		●		▲									—					—	—	—	—	—	—	—							—
Medium Cut	UG 	WNMG 06T304N-UG	0.4		●		▲									—					—	—	—	—	—	—	—							—
		06T308N-UG	0.8		●		▲									—					—	—	—	—	—	—	—							—

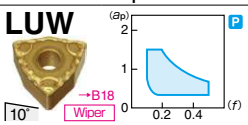
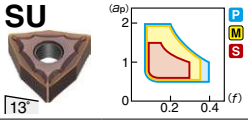
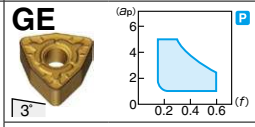
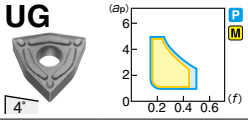
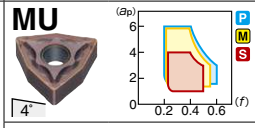
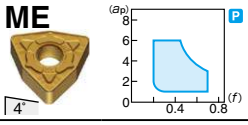
WN■■0604●●

- ℓ : 6.5
- s : 4.76
- ød : 9.525
- ød1 : 3.81

Recommended Application

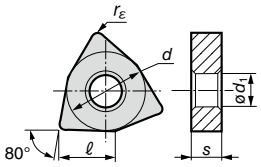
	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖				◔								✪	✪		◕	✖		●	◕									
M stainless steel			✪		●		◔	◕	✖					◔	✪	✪															
K cast iron		✪								●	◕	✖		✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

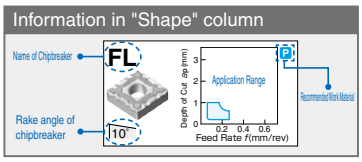
Applicable External Holders C27
Applicable Internal Holders E48

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	LUW  →B18 Wiper	WNMG 060404N-LUW	0.4	●	●		▲		●							—					●		▲		●									
		060408N-LUW	0.8	●	●		▲		●							—					●		▲		●									
	SU 	WNMG 060404N-SU	0.4		●		▲									—					—	—	—	—	—	—	—							—
		060408N-SU	0.8		●		▲									—					—	—	—	—	—	—	—							—
Medium Cut	GE 	WNMG 060408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		060412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
	UG 	WNMG 060404N-UG	0.4		●		▲									—					—	—	—	—	—	—	—							—
		060408N-UG	0.8		●		▲									—					—	—	—	—	—	—	—							—
Medium-Rough Cut	MU 	WNMG 060408N-MU	0.8		●		▲									—					—	—	—	—	—	—	—							—
		060412N-MU	1.2		●											—					—	—	—	—	—	—	—							—
	ME 	WNMG 060408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
		060412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

WN Trigon Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◓ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✿ : 2nd Choice

WN■■0804●●

- ℓ : 8.7
- s : 4.76
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts ☞ From L92

Applicable External Holders ☞ C27

Applicable Internal Holders ☞ E47, 48

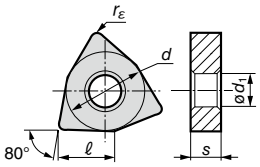
Recommended Application

	Coat																	Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Finishing	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		●		▲		●							—					●	●	▲	●	●									
Finishing	LU (10°)	WNMG 080404N-LU	0.4	●	●	●	▲		●							—					●	●	▲	●	●		▲							
		080408N-LU	0.8	●	●	●	▲		●							—					●	●	▲	●	●		▲							
		080412N-LU	1.2	●	●	●	▲		●							—					●	●	▲		●		▲							
	LUW (10°, →B18 Wiper)	WNMG 080404N-LUW	0.4	●	●		▲		●							—					●	●	▲		●									
		080408N-LUW	0.8	●	●		▲		●							—					●	●	▲		●									
		080412N-LUW	1.2	●	●		▲		●							—					●	●	▲		●									
	SP (13°)	WNMG 080404N-SP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
		080408N-SP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	▲	—	—	—	—	—	—	—
	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 (5°, →B18 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						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
Light-Medium Cut	SX (3°)	WNMG 080404N-SX	0.4		●	●	▲									—					●	●	▲		●		▲							
		080408N-SX	0.8	●	●	●	▲									—					●	●	▲		●		▲							
		080412N-SX	1.2	●	●	●	▲									—					—	—	—	—	—	—	—							—
	EX (16°)	WNMG 080404N-EX	0.4					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		080408N-EX	0.8					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
		080412N-EX	1.2					●	●	●	●					—	●	●	●		—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

WN Trigon Type Negative With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ● : 1st Choice ◐ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

WN■■0804●●

- ℓ : 8.7
- s : 4.76
- ød : 12.7
- ød1 : 5.16

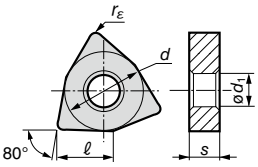
SUMIBORON (CBN) Inserts From L92
Applicable External Holders C27
Applicable Internal Holders E47, 48

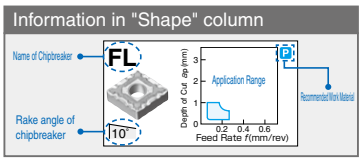
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut, UP (M, S; 10°)	WNMG 080408N-UP	0.8		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
	080412N-UP	1.2		●	●	▲		●	●	●					—	●	●	●		—	—	—	—	—	—	—							—
Medium Cut, GU (P, M; 7°)	WNMG 080404N-GU	0.4	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
	080408N-GU	0.8	●	●	●	▲	●	●	●	●					—		●	●		●				●		▲							
	080412N-GU	1.2	●	●	●	▲	●	●	●	●					—		●	●															
GE (P; 3°)	WNMG 080404N-GE	0.4	●	●	●										—					—	—	—	—	—	—	—							—
	080408N-GE	0.8	●	●	●										—					—	—	—	—	—	—	—							—
	080412N-GE	1.2	●	●	●										—					—	—	—	—	—	—	—							—
	080416N-GE	1.6	●	●	●										—					—	—	—	—	—	—	—							—
GUW (P; 0°; →B18 Wiper)	WNMG 080408N-GUW	0.8	●	●		▲									—					—	—	—	—	—	—	—							—
	080412N-GUW	1.2	●	●		▲									—					—	—	—	—	—	—	—							—
UX (P, K; 0°)	WNMG 080404N-UX	0.4	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
	080408N-UX	0.8	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
	080412N-UX	1.2	●	●	●	▲								▲	—					—	—	—	—	—	—	—							—
UG (P, M; 4°)	WNMG 080404N-UG	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
	080408N-UG	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
	080412N-UG	1.2		●	●	▲									—					—	—	—	—	—	—	—							—
EG (M; 0°)	WNMG 080404N-EG New	0.4							●	●					—					—	—	—	—	—	—	—							—
	080408N-EG	0.8						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	080412N-EG	1.2						●	●	●					—	●	●			—	—	—	—	—	—	—					●	●	—
	WNMA 080408	0.8									●	●	●	▲						—	—	—	—	—	—	—							—
	080412	1.2									●	●	●	▲						—	—	—	—	—	—	—							—
	080416	1.6									●	●	●	▲						—	—	—	—	—	—	—							—
Medium-Rough Cut, MU (P, M, S; 4°)	WNMG 080408N-MU	0.8	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
	080412N-MU	1.2	●	●	●	▲		●							—	●	●	●		—	—	—	—	—	—	—							—
	080416N-MU	1.6	●	●											—					—	—	—	—	—	—	—							—
EM (M; 0°)	WNMG 080408N-EM New	0.8							●	●					—					—	—	—	—	—	—	—							—
	080412N-EM New	1.2							●	●					—					—	—	—	—	—	—	—							—
ME (P; 4°)	WNMG 080408N-ME	0.8	●	●	●										—					—	—	—	—	—	—	—							—
	080412N-ME	1.2	●	●	●										—					—	—	—	—	—	—	—							—
	080416N-ME	1.6	●	●	●										—					—	—	—	—	—	—	—							—
MX (P; -15°)	WNMG 080408N-MX	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
	080412N-MX	1.2		●	●	▲									—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

WN Trigon Type Negative With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✿ : 2nd Choice

WN■■0804●●

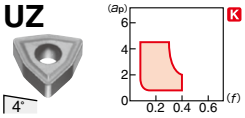
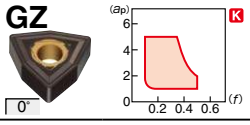
- ℓ : 8.7
- s : 4.76
- ød : 12.7
- ød1 : 5.16

SUMIBORON (CBN) Inserts From L92

Applicable External Holders C27

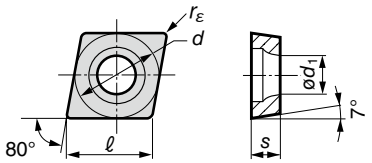
Applicable Internal Holders E47, 48

Recommended Application		Coat																Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium-Rough Cut	UZ 	WNMG 080404N-UZ	0.4		●		▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—							—
		080408N-UZ	0.8		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—							—
		080412N-UZ	1.2		●	●	▲					●	●	●	▲	—	●	●			—	—	—	—	—	—	—							—
	GZ 	WNMG 080404N-GZ	0.4		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		080408N-GZ	0.8		●							●	●	●	▲	—					—	—	—	—	—	—	—							—
		080412N-GZ	1.2		●							●	●	●	▲	—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CC 80° Diamond Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

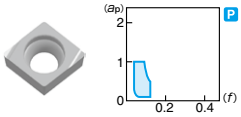
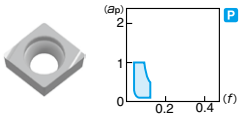
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CC■■03X1●●

- ℓ : 3.55
- s : 1.4
- ød : 3.5
- ød$_1$: 1.8

SUMIBORON (CBN) Inserts L34
Applicable Internal Holders E36, 37

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

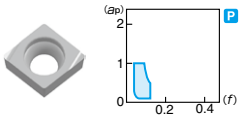
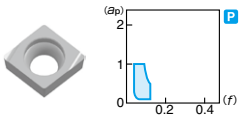
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FY  15°	CCGT 03X101R-FY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 03X101L-FY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 03X102R-FY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 03X102L-FY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 03X104R-FY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 03X104L-FY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
	FY  15°	CCET 03X1003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 03X1003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		CCET 03X101R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 03X101L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		CCET 03X102R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 03X102L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		CCET 03X104R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 03X104L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							

CC■■04X1●●

- ℓ : 4.37
- s : 1.8
- ød : 4.3
- ød$_1$: 2.2

SUMIBORON (CBN) Inserts L35
Applicable Internal Holders E36, 37

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

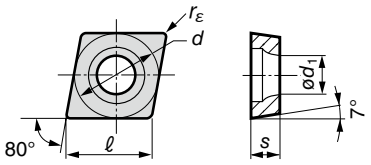
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FY  15°	CCGT 04X101R-FY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 04X101L-FY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 04X102R-FY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 04X102L-FY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 04X104R-FY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
		CCGT 04X104L-FY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●									
	FY  15°	CCET 04X1003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 04X1003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		CCET 04X101R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 04X101L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		CCET 04X102R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 04X102L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		CCET 04X104R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—					●				●	●									
		CCET 04X104L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							

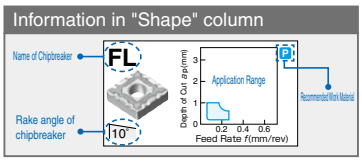
80° DIAMOND TYPE
POSITIVE INSERT

Indexable Inserts for Turning

Indexable Inserts

CC 80° Diamond Type / 7° Relief / With Insert Hole





(Legend) Continuous Cut: ● 1st Choice, ○ 2nd Choice; Medium Cut: ◒ 1st Choice, ◔ 2nd Choice; Interrupted Cut: ✖ 1st Choice, ✪ 2nd Choice

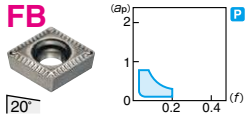
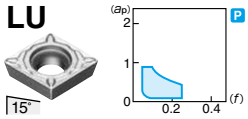
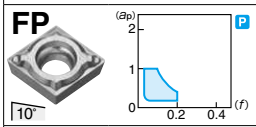
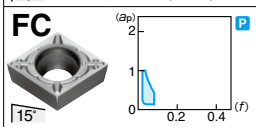
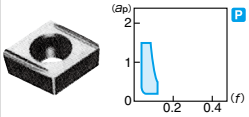
CC■■0602●●

- ℓ : 6.4
- s : 2.38
- ød : 6.35
- ød1 : 2.8

SUMIBORON (CBN) Inserts From L36
SUMIDIA (PCD) Inserts M8
Applicable External Holders C29, D13, 17, 24
Applicable Internal Holders E36, 37

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing																																	
FB  20°	CCMT 060202N-FB New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	CCMT 060204N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
LU  15°	CCMT 060202N-LU	0.2	●	●		▲		●	●	●					—			●		●	●		●	●		▲							
	CCMT 060204N-LU	0.4	●	●		▲		●	●	●					—			●		●	●		●	●		▲							
FP  10°	CCMT 060202N-FP	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●			—	—	—	—	—	—	—
	CCMT 060208N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		▲	—	—	—	—	—	—	
FC  15°	CCGT 060201MN-FC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●				●	●			—	—	—	—	—	—	—
	CCGT 060202MN-FC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●				●	●			—	—	—	—	—	—	—
	CCGT 060204MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●				●	●			—	—	—	—	—	—	—
FX  15°	CCGT 0602003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					●	●		▲							
	CCGT 0602003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					●	●		▲							
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	CCGT 060201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●			●	●		▲							
	CCGT 060202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●			●	●	▲	▲							
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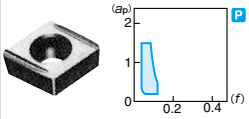
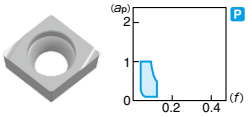
	CCGT 060204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●						●									
	CCGT 060204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●				▲		●									
FX  14°	CCET 0602003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 0602003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060201R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
FY  15°	CCET 0602003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 0602003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 0602008R-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																
	CCET 0602008L-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																
	CCET 060201R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●									
	CCET 060201L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●									
	CCET 0602018R-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																
	CCET 0602018L-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																
	CCET 060202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●									
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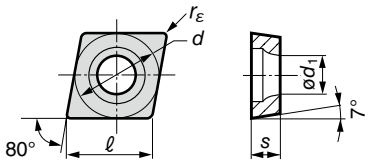
	CCET 060204R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														
	CCET 060204L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●														

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

CC

80° Diamond Type
7° Relief
With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

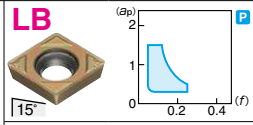
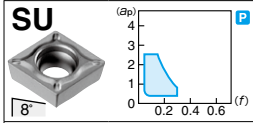
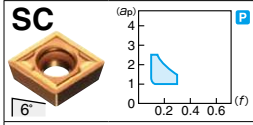
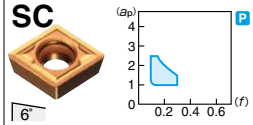
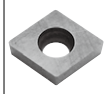
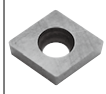
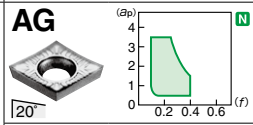
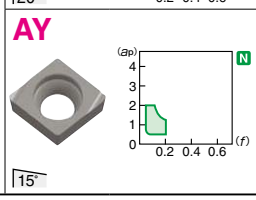
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CC■■0602●●

- ℓ : 6.4
- s : 2.38
- ød : 6.35
- ød1 : 2.8

SUMIBORON (CBN) Inserts ☞ From L36
SUMIDIA (PCD) Inserts ☞ M8
Applicable External Holders ☞ C29, D13, 17, 24
Applicable Internal Holders ☞ E36, 37

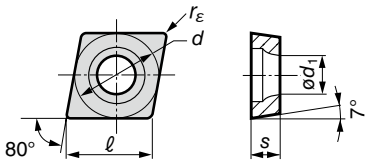
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

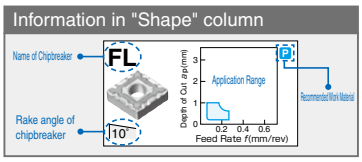
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Light Cutting	LB 	CCMT 060202N-LB New	0.2		●	●				●	●					—					●	●			●									
		CCMT 060204N-LB New	0.4		●	●				●	●					—					●	●			●									
		CCMT 060208N-LB New	0.8		●	●				●	●					—					●	●			●									
	SU 	CCMT 060202N-SU	0.2		●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
		CCMT 060204N-SU	0.4		●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
		CCMT 060208N-SU	0.8		●	●	▲	●	●	●	●					—		●	●		●		▲	●	●		▲							
	SC 	CCMT 060204N-SC	0.4		●		▲									—					—	—	—	—	—	—	—			●				—
	SC 	CCGT 0602003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●				●	●		▲	—	—	—	—	—	—	
		CCGT 060201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	
		CCGT 060202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	
		CCGT 060204MN-SC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●				●			—	—	—	—	—	—	
		CCMW 060204	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		CCGW 060200	0	—	—	—	—																											
		CCGW 060201	0.1	—	—	—	—																											
for Aluminium	AG 	CCGT 060202N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CCGT 060204N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AY 	CCGT 060201R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CCGT 060201L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CCGT 060202R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CCGT 060202L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CCGT 060204R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		CCGT 060204L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

Nose radii (rε) indicated with "<" have negative tolerances.

80° DIAMOND TYPE
POSITIVE INSERT
Indexable Inserts for Turning

CC
80° Diamond Type
7° Relief
With Insert Hole



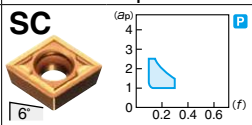
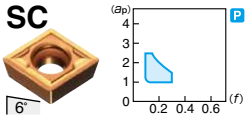
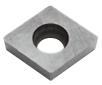


(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

CC■■0802●●

- ℓ : 8.0
- s : 2.38
- ød : 7.94
- ød1 : 3.4

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

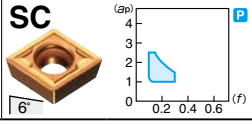
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 	CCMT 080204N-SC	0.4													—					—	—	—	—	—	—	—							—
Light Cutting	SC 	CCGT 080201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●			—	—	—	—	—	—	—
		080202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●			—	—	—	—	—	—	—
		CCGW 080200	0	—	—	—	—																											
		080201	0.1	—	—	—	—																											

Nose radii (rε) indicated with "<" have negative tolerances.

CC■■0803●●

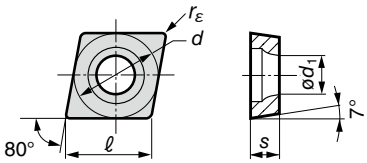
- ℓ : 8.0
- s : 3.18
- ød : 7.94
- ød1 : 3.4

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 	CCMT 080304N-SC	0.4		●		▲									—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CC 80° Diamond Type 7° Relief With Insert Hole



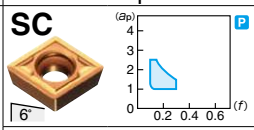
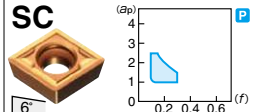
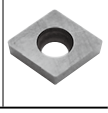
Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CC■■0903●●

- ℓ : 9.7
- s : 3.18
- ød : 9.525
- ød1 : 4.4

Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	—	—	—	—																											

Nose radii (r_ε) indicated with "<" have negative tolerances.

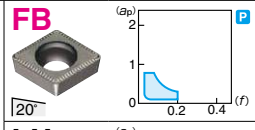
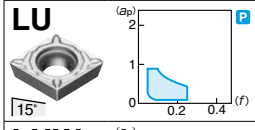
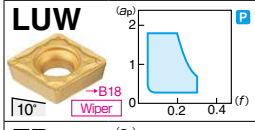
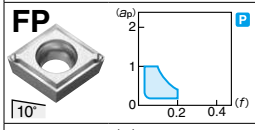
CC■■09T3●●

- ℓ : 9.7
- s : 3.97
- ød : 9.525
- ød1 : 4.4

Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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 From L38 | SUMIBORON (PCD) Inserts M8

Applicable External Holders C29, D13, 17, 24 | Applicable Internal Holders E36, 37

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	CCMT 09T304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
		09T308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
	LU 	CCMT 09T302N-LU	0.2													—																		
		09T304N-LU	0.4	●	●		▲		●	●	●					—			●		●	●	▲	●	●		▲							
		09T308N-LU	0.8	●	●		▲		●	●	●					—			●		●	●	▲	●	●		▲							
	LUW  →B18 Wiper	CCMT 09T304N-LUW	0.4	●	●		▲		●							—					●	●			●									
		09T308N-LUW	0.8	●	●		▲		●							—					●	●			●									
	FP 	CCMT 09T302N-FP	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—								●		▲	—	—	—	—	—	—	—
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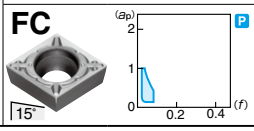
	FC 	CCGT 09T301MN-FC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●				●	●			—	—	—	—	—	—	—
		09T302MN-FC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●				●	●			—	—	—	—	—	—	—
		09T304MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●				●	●			—	—	—	—	—	—	—

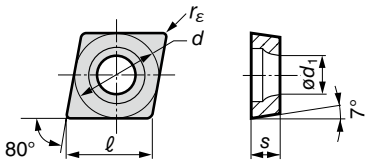
Nose radii (r_ε) indicated with "<" have negative tolerances.

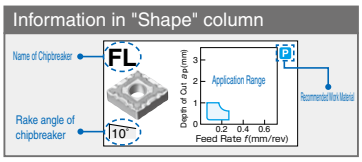
80° DIAMOND TYPE
POSITIVE INSERT

Indexable Inserts for Turning

Indexable Inserts

CC 80° Diamond Type / 7° Relief / With Insert Hole





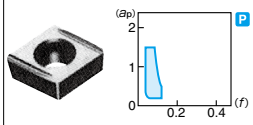
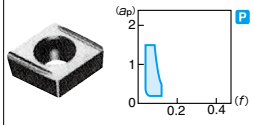
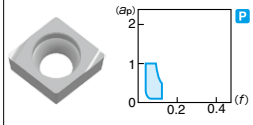
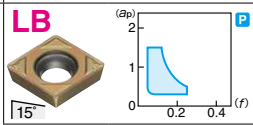
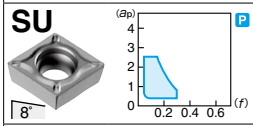
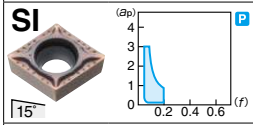
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◐ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CC■■09T3●●

- ℓ : 9.7
- s : 3.97
- ød : 9.525
- ød₁ : 4.4

SUMIBORON (CBN) Inserts ☞ From L38
SUMIBORON (PCD) Inserts ☞ M8
Applicable External Holders ☞ C29, D13, 17, 24
Applicable Internal Holders ☞ E36, 37

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◐	✖			◔								✪	✪			◐	✖		●	◐									
M stainless steel			✪		●	◔	◐	✖						◔	✪	✪															
K cast iron	✪								●	◐	✖			✪							●										
N non-ferrous metal																															◐
S exotic alloy														◐	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX  15°	CCGT 09T3003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					●	●		▲							
		CCGT 09T3003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					●	●		▲							
		CCGT 09T301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●			●	●		▲							
		CCGT 09T301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●			●	●	▲	▲							
		CCGT 09T302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●			●	●		▲							
		CCGT 09T302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●			●	●	▲	▲							
		CCGT 09T304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●															
		CCGT 09T304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●															
		CCGT 09T308R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●															
		CCGT 09T308L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●															
	FX  14°	CCET 09T3003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T3003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
	FY  15°	CCET 09T3003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T3003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T3008R-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	
		CCET 09T3008L-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	
		CCET 09T301R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●										
		CCET 09T301L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●										
		CCET 09T3018R-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	
		CCET 09T3018L-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	
		CCET 09T302R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●										
		CCET 09T302L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●										
		CCET 09T304R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
		CCET 09T304L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●															
Light Cutting	LB  15°	CCMT 09T302N-LB New	0.2		●	●				●	●					—					●	●			●									
		CCMT 09T304N-LB New	0.4		●	●				●	●					—					●	●			●									
		CCMT 09T308N-LB New	0.8		●	●				●	●					—					●	●			●									
	SU  8°	CCMT 09T302N-SU	0.2		●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
		CCMT 09T304N-SU	0.4	●	●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
		CCMT 09T308N-SU	0.8	●	●	●	▲	●	●	●	●					—			●		●		▲	●	●	▲	▲							
	SI  15°	CCGT 09T301MN-SI	<0.1					●	●	—	—					—	●	●	●		●			●	●									
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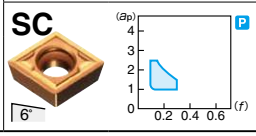
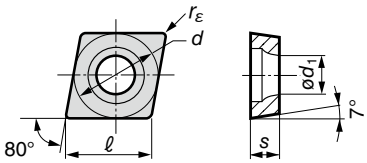
		CCGT 09T304MN-SI	<0.4					●	●	—	—					—	●	●	●		●			●	●									
	SC  6°	CCGT 09T3003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●				●	●		▲							
		CCGT 09T301MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	
		CCGT 09T302MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

CC 80° Diamond Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

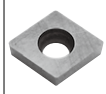
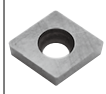
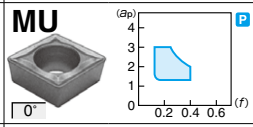
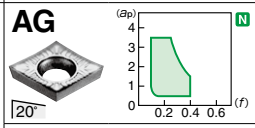
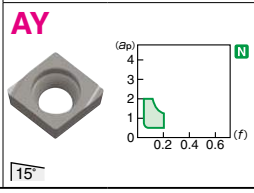
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ● : 1st Choice ◐ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CC■■09T3●●

- ℓ : 9.7
- s : 3.97
- ød : 9.525
- ød1 : 4.4

SUMIBORON (CBN) Inserts From L38
SUMIBORON (PCD) Inserts M8
Applicable External Holders C29, D13, 17, 24
Applicable Internal Holders E36, 37

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

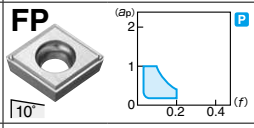
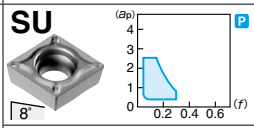
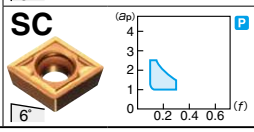
	Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		CCMW 09T304	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		09T308	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		CCGW 09T300	0	—	—	—	—																											
		09T301	0.1	—	—	—	—																											
Light-Medium Cut	MU 	CCMT 09T304N-MU	0.4	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
		09T308N-MU	0.8	●	●	●	▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
for Aluminium	AG 	CCGT 09T302N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T304N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T308N-AG	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AY 	CCGT 09T301R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T301L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T302R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T302L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T304R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		09T304L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

CC■■1204●●

- ℓ : 12.9
- s : 4.76
- ød : 12.7
- ød1 : 5.5

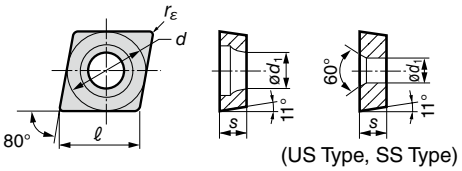
Applicable Internal Holders E36

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

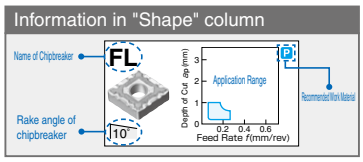
	Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FP 	CCMT 120404N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	—	—	—	—	—	—	—
		120408N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	—	—	—	—	—	—	—
Light Cutting	SU 	CCMT 120404N-SU	0.4	●	●	●	▲									—					—	—	—	—	—	—	—							—
		120408N-SU	0.8	●	●	●	▲									—					—	—	—	—	—	—	—							—
	SC 	CCMT 120408N-SC	0.8		●		▲									—					—	—	—	—	—	—	—			●				—

▲mark : To be replaced by new item

CP 80° Diamond Type 11° Relief With Insert Hole



(US Type, SS Type)

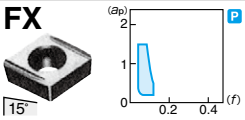
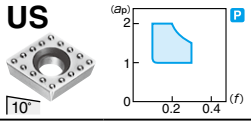


(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

CP■■0602●●

- ℓ : 6.4
- s : 2.38
- ød : 6.35
- ød1 : 2.8

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron	✪								●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX 	CPGT 060204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●		▲							
Light Cutting	US 	CPMT 060204N-US	0.4						●							—					—	—	—	—	—	—	—			●	●			—

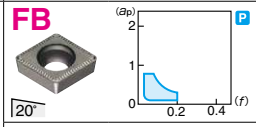
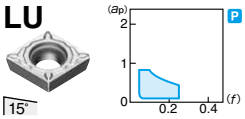
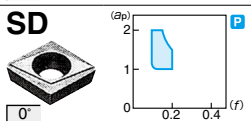
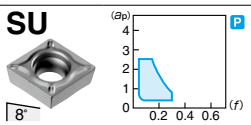
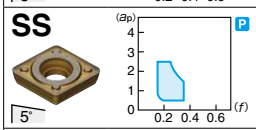
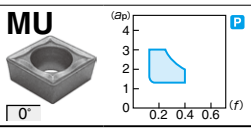
CP■■0802●●

- ℓ : 8.0
- s : 2.38
- ød : 7.94
- ød1 : 3.4

SUMIBORON (CBN) Inserts ☞ L42 SUMIDIA (PCD) Inserts ☞ M9

Applicable Internal Holders ☞ E42, 43

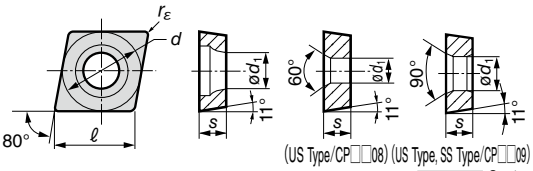
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron	✪								●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	CPMT 080204N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
	LU 	CPMT 080204N-LU	0.4		●		▲									—					●	●		●	●		▲							
Finishing-Light Cutting	SD 	CPGT 080202N-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	●							●	●	▲	▲							
		080204N-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	●				●	●	▲	●	●	▲	▲				●			
		080208N-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	●				●			●	●	▲	▲							
Light Cutting	SU 	CPMT 080204N-SU	0.4	●	●	●	▲	●	●							—					●		▲	●	●		▲							
		080208N-SU	0.8	●	●	●	▲	●	●							—					●	●	▲	●	●		▲							
	SS 	CPMT 080208N-SS	0.8						●							—					—	—	—	—	—	—	—			●				—
		CPMW 080204	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		080208	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
Light-Medium Cut	MU 	CPMT 080204N-MU	0.4	●	●		▲		●			●	●	●	▲	—					—	—	—	—	—	—	—							—
		080208N-MU	0.8	●	●		▲		●			●	●	●	▲	—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

CP

80° Diamond Type
11° Relief
With Insert Hole



(US Type/CP□□08) (US Type, SS Type/CP□□09)

Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

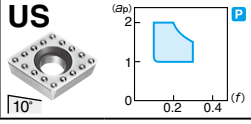
(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✿ : 2nd Choice

CP■■0803●●

- ℓ : 8.0
- ød : 7.94
- s : 3.18
- ød1 : 3.4

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✿	✿		◕	✖		●	◕									
M	stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K	cast iron		✿							●	◕	✖			✿							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US  10°	CPMT 080308N-US	0.8						●							—					—	—	—	—	—	—	—			●	●			—

CP■■0903●●

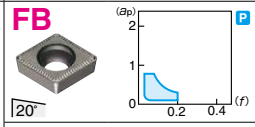
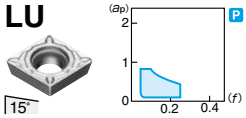
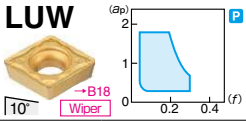
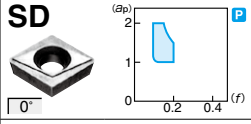
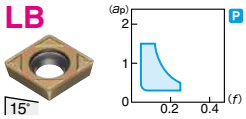
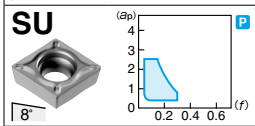
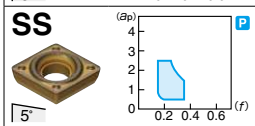
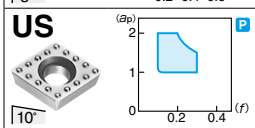
- ℓ : 9.7
- ød : 9.525
- s : 3.18
- ød1 : 4.4*

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✿	✿		◕	✖		●	◕									
M	stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K	cast iron		✿							●	◕	✖			✿							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

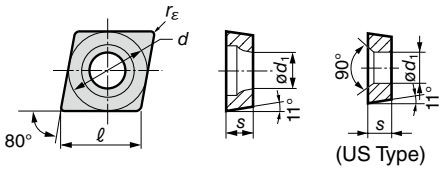
SUMIBORON (CBN) Inserts ☞ L43
SUMIDIA (PCD) Inserts ☞ M9
Applicable Internal Holders ☞ E42, 43

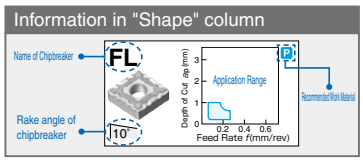
* 4.8 for SS

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB  20°	CPMT 090304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
		090308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
	LU  15°	CPMT 090304N-LU	0.4	●	●		▲		●	●						—					●	●		●	●		▲							
		090308N-LU	0.8	●	●		▲		●	●						—					●	●		●	●		▲							
	LUW  10° →B18 Wiper	CPMT 090304N-LUW	0.4	●	●		▲		●							—					●	●			●									
		090308N-LUW	0.8	●	●		▲		●							—					●	●			●									
Finishing-Light Cutting	SD  0°	CPGT 090302N-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—		●							●	●	▲	▲							
		090304N-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●	▲	●	●	▲	▲				●			
		090308N-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—		●				●				●	●	▲	▲							
Light Cutting	LB  15°	CPMT 090304N-LB New	0.4		●	●				●	●					—					●	●			●									
		090308N-LB New	0.8		●	●				●	●					—					●	●			●									
	SU  8°	CPMT 090304N-SU	0.4	●	●	●	▲	●	●	●						—					●	●	▲	●	●		▲							
		090308N-SU	0.8	●	●	●	▲	●	●	●						—					●	●	▲	●	●		▲							
	SS  5°	CPMH 090308N-SS	0.8						●							—					—	—	—	—	—	—	—			●				—
	US  10°	CPMH 090304N-US	0.4													—					—	—	—	—	—	—	—							—
		090308N-US	0.8						●							—					—	—	—	—	—	—	—			●				—

▲mark : To be replaced by new item

CP 80° Diamond Type 11° Relief With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

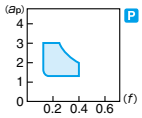
CP■■0903●●

- ℓ : 9.7
- s : 3.18
- ød : 9.525
- ød1 : 4.4

SUMIBORON (CBN) Inserts L43
SUMIDIA (PCD) Inserts M9
Applicable Internal Holders E42,43

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

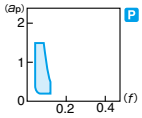
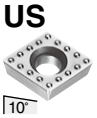
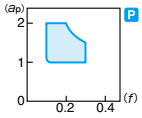
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		CPMW 090304	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		090308	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
Light-Medium Cut	MU 	CPMT 090304N-MU	0.4	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
		090308N-MU	0.8	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—

CP■■09T3●●

- ℓ : 9.7
- s : 3.97
- ød : 9.525
- ød1 : 4.4

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX 	CPGT 09T308L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—						—	—	—	—	—	—	—								—
Light Cutting	US  	CPMT 09T308N-US	0.8						●						—						—	—	—	—	—	—	—			●	●				—

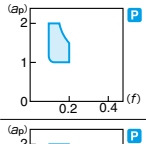
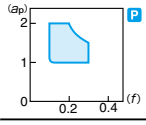
CP■■1204●●

- ℓ : 12.9
- s : 4.76
- ød : 12.7
- ød1 : 5.5

Applicable Internal Holders E42

Recommended Application

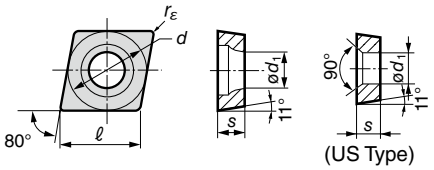
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◕	✖			◔								✪	✪			◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing-Light Cutting	SD 	CPGT 120402N-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—		●							●	●		▲								
		120404N-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—		●				●		▲	●	●	▲	▲				●				
		120408N-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—		●							●	●	▲	▲								
Light Cutting	US 	CPMH 120408N-US	0.8						●						—						—	—	—	—	—	—	—			●	●				—

▲mark : To be replaced by new item

CP

80° Diamond Type
11° Relief
With Insert Hole



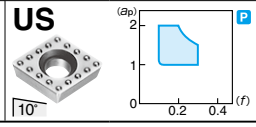
Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

CP■■1604●●

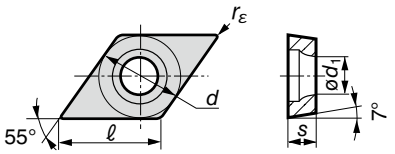
- ℓ : 16.1
- s : 4.76
- ød : 15.875
- ød1 : 6.5

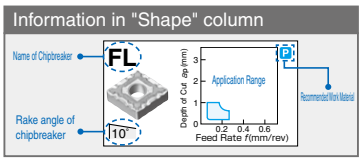
Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖			◔								✿	✿	✿		◕	✖		●	◕									
M stainless steel		✿	✿		●	◔	◕	✖						◔	✿	✿															
K cast iron									●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US 	CPMH 160408N-US	0.8						●							—					—	—	—	—	—	—	—			●				—

55° DIAMOND TYPE
POSITIVE INSERT
Indexable Inserts for Turning

DC 55° Diamond Type / 7° Relief / With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◓ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

DC■■0702●●

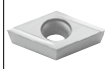
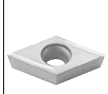
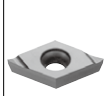
- ℓ : 7.7
- s : 2.38
- ød : 6.35
- ød1 : 2.8

SUMIDIA (CBN) Inserts ☞ From L49 SUMIDIA (PCD) Inserts ☞ M10

Applicable External Holders ☞ C29, D14, 16, 19 Applicable Internal Holders ☞ E49 to E51

Recommended Application

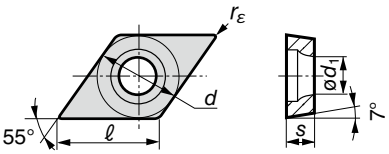
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◓	✖			◔									✪	✪		◓	✖		●	◓									
M	stainless steel			✪		●	◔	◓	✖						◔	✪	✪															
K	cast iron	✪								●	◓	✖			✪							●										
N	non-ferrous metal																															◓
S	exotic alloy														◓	✖																
H	hardened steel													●																		

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing																																	
FB 20°	**DCMT 070202N-FB** New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	070204N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	070208N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
LU 15°	**DCMT 070202N-LU**	0.2	●	●		▲		●	●	●					—			●		●	●		●	●		▲							
	070204N-LU	0.4	●	●		▲		●	●	●					—			●		●	●		●	●		▲							
FP 10°	**DCMT 070202N-FP**	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●			—	—	—	—	—	—	
	070204N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●			—	—	—	—	—	—	
FC 15°	**DCGT 070201MN-FC**	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●				●	●			—	—	—	—	—	—	
	070202MN-FC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●				●	●			—	—	—	—	—	—	
	070204MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●				●	●			—	—	—	—	—	—	
FX  15°	**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  14°	**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	—	—	—	—	—	—	—	—	—	—	—	—	—				●														
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	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●					●										

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

DC 55° Diamond Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

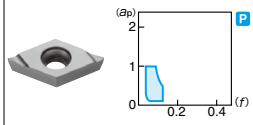
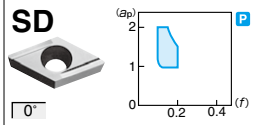
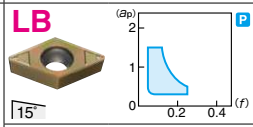
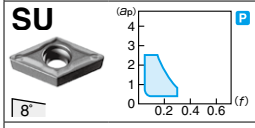
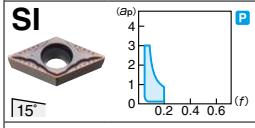
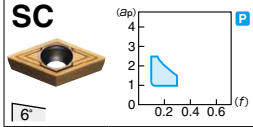
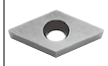
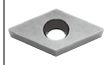
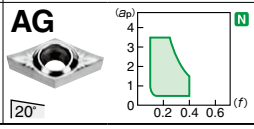
DC■■0702●●

- ℓ : 7.7
- s : 2.38
- ød : 6.35
- ød1 : 2.8

SUMIDIA (CBN) Inserts ☞ From L49
SUMIDIA (PCD) Inserts ☞ M10
Applicable External Holders ☞ C29, D14, 16, 19
Applicable Internal Holders ☞ E49 to E51

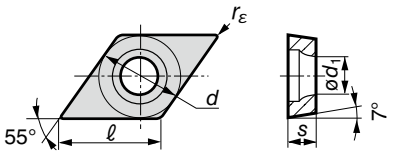
Recommended Application

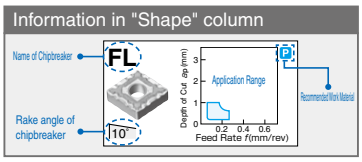
		Coat																	Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FY** 	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-Light Cutting	**SD** 	DCGT 070202R-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●		▲							
		070202L-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●		▲							
		070204R-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●		▲							
		070204L-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●	▲	▲							
Light Cutting	**LB** 	DCMT 070202N-LB New	0.2		●	●				●	●					—					●	●			●									
		070204N-LB New	0.4		●	●				●	●					—					●	●			●									
		070208N-LB New	0.8		●	●				●	●					—					●	●			●									
	SU 	DCMT 070202N-SU	0.2		●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
		070204N-SU	0.4	●	●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
		070208N-SU	0.8	●	●	●	▲	●	●	●						—					●	●	▲	●	●	▲	▲							
	SI 	DCGT 070201MN-SI	<0.1					●	●	—	—					—	●	●	●		●			●	●									
		070202MN-SI	<0.2					●	●	—	—					—	●	●	●		●			●	●									
		070204MN-SI	<0.4					●	●	—	—					—	●	●	●		●			●	●									
	SC 	DCGT 0702003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—				●	●				●	●		▲							
		DCGT 070201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—				●	●	●			●	●			—	—	—	—	—	—	
		070202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—				●	●	●			●	●			—	—	—	—	—	—	
		070204MN-SC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—					●	●			●	●			—	—	—	—	—	—	
		DCMW 070204	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		070208	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		DCGW 070200	0	—	—	—	—																										
		070201	0.1	—	—	—	—																										
		070202 New	0.2	—	—	—	—									●																	
		070204 New	0.4	—	—	—	—									●																	
		070208 New	0.8	—	—	—	—									●																	
for Aluminium	**AG** 	DCGT 070202N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		070204N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

Nose radii (r_ε) indicated with "<" have negative tolerances.

DC 55° Diamond Type 7° Relief With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◒ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

DC■■0702●●

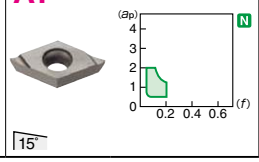
- ℓ : 7.7
- s : 2.38
- ød : 6.35
- ød1 : 2.8

SUMIDIA (CBN) Inserts ☞ From L49 | SUMIDIA (PCD) Inserts ☞ M10

Applicable External Holders ☞ C29, D14, 16, 19 | Applicable Internal Holders ☞ E49 to E51

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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												●																			

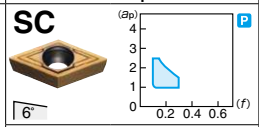
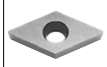
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
for Aluminium	AY 	DCGT 070201R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		070201L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		070202R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		070202L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		070204R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		070204L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

DC■■0902●●

- ℓ : 9.7
- s : 2.38
- ød : 7.94
- ød1 : 3.4

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

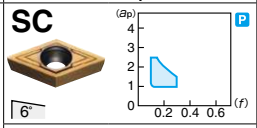
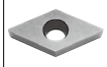
Nose radii (rε) indicated with "<" have negative tolerances.

DC■■1103●●

- ℓ : 11.6
- s : 3.18
- ød : 9.525
- ød1 : 4.4

Recommended Application

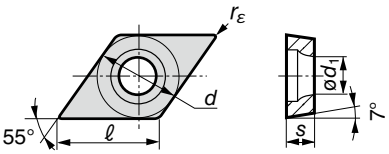
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◒	✖			◔								✪	✪			◒	✖		●	◒									
M	stainless steel			✪		●	◔	◒	✖					◔	✪	✪																
K	cast iron	✪								●	◒	✖			✪							●										
N	non-ferrous metal																															◒
S	exotic alloy													◒	✖																	
H	hardened steel												●																			

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Nose radii (rε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

DC 55° Diamond Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

DC■■11T3●●

- ℓ : 11.6
- s : 3.97
- ød : 9.525
- ød1 : 4.4

SUMIBORON (CBN) Inserts From L51
SUMIDIA (PCD) Inserts From M10
Applicable External Holders C29, D14, 16, 19
Applicable Internal Holders E49 to 51

Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
			Coat																	Coated Cermet			Cermet				Carbide						
Finishing																																	
FB (20°)	DCMT 11T302N-FB (New)	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	11T304N-FB (New)	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	11T308N-FB (New)	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
LU (15°)	DCMT 11T302N-LU	0.2		●		▲				●					—			●		●	●		●	●		▲							
	11T304N-LU	0.4	●	●		▲		●	●	●					—			●		●	●	▲	●	●		▲							
	11T308N-LU	0.8	●	●		▲		●	●	●					—			●		●	●	▲	●	●		▲							
FP (10°)	DCMT 11T308N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●			—	—	—	—	—	—	
FC (15°)	DCGT 11T301MN-FC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●				●	●			—	—	—	—	—	—	
	11T302MN-FC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●				●	●			—	—	—	—	—	—	
	11T304MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●				●	●			—	—	—	—	—	—	
FX (15°)	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	—	—	—	—	—	—	—	—	—	—	—	—			●	●		●			●	●	▲	▲							
FX (14°)	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	—	—	—	—	—	—	—	—	—	—	—	—					●														
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	—	—	—	—	—	—	—	—	—	—	—	—			●	●					●	●									

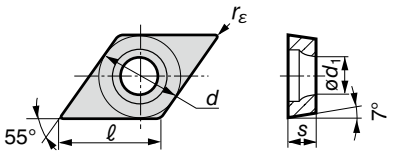
Nose radii (r_ε) indicated with "<" have negative tolerances.

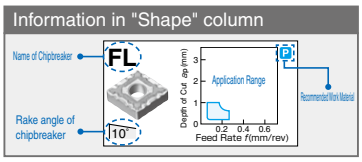
55° DIAMOND TYPE POSITIVE INSERT

Indexable Inserts for Turning

DC

55° Diamond Type
7° Relief
With Insert Hole





(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◓ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✪ : 2nd Choice

DC■■11T3●●

- ℓ : 11.6
- s : 3.97
- ød : 9.525
- ød1 : 4.4

SUMIBORON (CBN) Inserts From L51
SUMIDIA (PCD) Inserts From M10
Applicable External Holders C29, D14, 16, 19
Applicable Internal Holders E49 to 51

Recommended Application

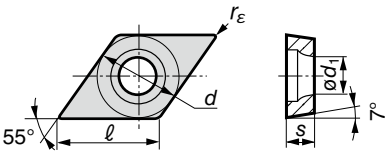
	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◓	✖			◔								✪	✪			◓	✖		●	◓									
M stainless steel			✪		●	◔	◓	✖						◔	✪	✪															
K cast iron	✪								●	◓	✖			✪							●										
N non-ferrous metal																															◓
S exotic alloy														◓	✖																
H hardened steel													●																		

	Shape	Cat. No.		r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FY	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-Light Cutting	SD	DCGT	11T304R-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●	▲	▲								
			11T304L-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●	▲	▲								
			11T308R-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●		▲								
			11T308L-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●	▲	▲								
Light Cutting	LB	DCMT	11T302N-LB New	0.2		●	●				●	●					—					●	●			●									
			11T304N-LB New	0.4		●	●				●	●					—					●	●			●									
			11T308N-LB New	0.8		●	●				●	●					—					●	●			●									
	SU	DCMT	11T302N-SU	0.2		●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
			11T304N-SU	0.4	●	●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
			11T308N-SU	0.8	●	●	●	▲	●	●	●	●					—			●		●	●	▲	●	●	▲	▲							
	SI	DCGT	11T301MN-SI	<0.1					●	●	—	—					—	●	●	●		●			●	●									
			11T302MN-SI	<0.2					●	●	—	—					—	●	●	●		●			●	●									
			11T304MN-SI	<0.4					●	●	—	—					—	●	●	●		●			●	●									
			11T308MN-SI	<0.8					●	●	—	—					—	●	●	●		●			●	●									
	SC	DCGT	11T3003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●				●	●		▲								
		DCGT	11T301MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	—
			11T302MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	—
			11T304MN-SC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●			●	●			—	—	—	—	—	—	—
			11T308MN-SC	<0.8	—	—	—	—	—	—	—	—	—	—	—	—	—			●		●			●	●			—	—	—	—	—	—	—
		DCMW	11T304	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
			11T308	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		DCGW	11T300	0	—	—	—	—																											
			11T301	0.1	—	—	—	—																											
			11T302	0.2	—	—	—	—									●																		
			11T304	0.4	—	—	—	—									●																		
			11T308	0.8	—	—	—	—									●																		
Light-Medium Cut	MU	DCMT	11T304N-MU	0.4	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
			11T308N-MU	0.8	●	●	●	▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

DC 55° Diamond Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

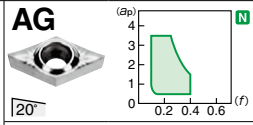
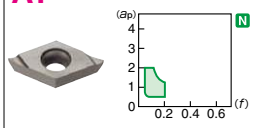
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

DC■■11T3●●

- ℓ : 11.6
- s : 3.97
- ød : 9.525
- ød1 : 4.4

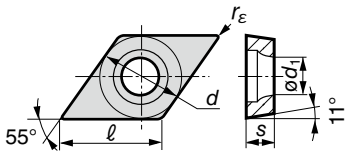
SUMIBORON (CBN) Inserts From L51
SUMIDIA (PCD) Inserts From M10
Applicable External Holders C29, D14, 16, 19
Applicable Internal Holders E49 to 51

Recommended Application	Coat															Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

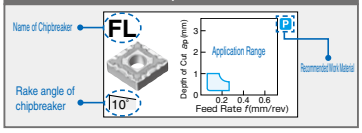
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
for Aluminium	**AG** 	DCGT 11T302N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T304N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T308N-AG	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AY 	DCGT 11T301R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T301L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T302R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T302L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T304R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		11T304L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

DP

55° Diamond Type
11° Relief
With Insert Hole



Information in "Shape" column



(Legend)

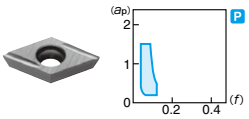
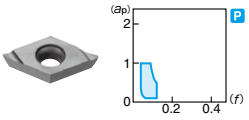
Continuous Cut	● : 1st Choice	○ : 2nd Choice
Medium Cut	◒ : 1st Choice	◔ : 2nd Choice
Interrupted Cut	✖ : 1st Choice	✪ : 2nd Choice

DP■■0702●●

- ℓ : 7.7
- s : 2.38
- ød : 6.35
- ød1 : 2.8

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◒	✖			◔								✪	✪			◒	✖		●	◒									
M	stainless steel			✪		●	◔	◒	✖						◔	✪	✪															
K	cast iron	✪								●	◒	✖			✪							●										
N	non-ferrous metal																															◒
S	exotic alloy														◒	✖																
H	hardened steel													●																		

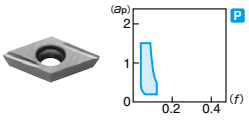
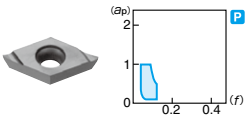
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FX** 	DPGT 0702003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 0702003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070201R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	FY 	DPGT 0702003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 0702003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070201R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070201L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 070202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

DP■■11T3●●

- ℓ : 11.6
- s : 3.97
- ød : 9.525
- ød1 : 4.4

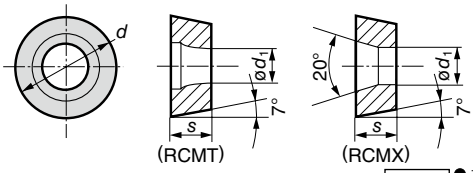
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◒	✖			◔								✪	✪			◒	✖		●	◒									
M	stainless steel			✪		●	◔	◒	✖						◔	✪	✪															
K	cast iron	✪								●	◒	✖			✪							●										
N	non-ferrous metal																															◒
S	exotic alloy														◒	✖																
H	hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FX** 	DPGT 11T3003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T3003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	FY 	DPGT 11T3003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T3003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T301R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T301L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T302R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		DPGT 11T302L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

▲mark : To be replaced by new item

RC Round Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

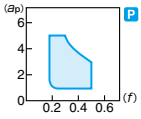
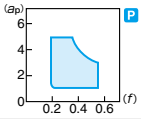
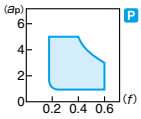
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

RC□□●●●●●●

- ød : 10.0 ~ 32.0
- s : 3.18 ~ 9.52
- ød1 : 3.6 ~ 9.5

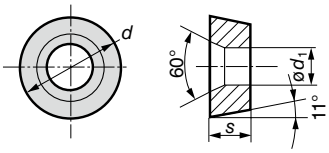
Applicable External Holders C28

Recommended Application	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖				◔								✿	✿		◕	✖		●	◕									
M stainless steel			✿			●	◔	◕	✖					◔	✿	✿															
K cast iron		✿								●	◕	✖		✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel																															

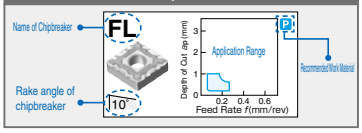
	Shape	Cat. No.	d	s	d_1	AC810P	AC820P	AC830P	AC900G	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium-Rough Cut	**RX**  -5°	RCMT 1003M0N-RX	10	3.18	4.4	●	●	●	▲			●											—	—	—	—	—	—	—							—
		RCMT 1204M0N-RX	12	4.76	4.4	●	●	●	▲			●											—	—	—	—	—	—	—							—
		RCMT 1606M0N-RX	16	6.35	5.0	●	●	●	▲			●											—	—	—	—	—	—	—							—
		RCMT 2006M0N-RX	20	6.35	6.5	●	●	●	▲			●											—	—	—	—	—	—	—							—
		RCMT 2507M0N-RX	25	7.94	7.6	●	●	●	▲			●											—	—	—	—	—	—	—							—
	RH  -15°	RCMT 1204M0N-RH New	12	4.76	4.4	●	●	●				●											—	—	—	—	—	—	—							—
		RCMT 1606M0N-RH New	16	6.35	5.0	●	●	●				●											—	—	—	—	—	—	—							—
		RCMT 2006M0N-RH New	20	6.35	6.5	●	●	●				●											—	—	—	—	—	—	—							—
Rough Cut	**RP**  -15°	RCMX 1003M0N-RP	10	3.18	3.6	●	●	●		▲		●			●	●	●	▲					—	—	—	—	—	—	—			●				—
		RCMX 1204M0N-RP	12	4.76	4.2	●	●	●		▲		●			●	●	●	▲	●				—	—	—	—	—	—	—			●				—
		RCMX 1606M0N-RP	16	6.35	5.2	●	●	●		▲		●			●	●	●	▲					—	—	—	—	—	—	—			●				—
		RCMX 2006M0N-RP	20	6.35	6.5	●	●	●		▲		●							●				—	—	—	—	—	—	—			●				—
		RCMX 2507M0N-RP	25	7.94	7.2	●	●	●		▲													—	—	—	—	—	—	—							—
		RCMX 3209M0N-RP	32	9.52	9.5	●	●																—	—	—	—	—	—	—							—

RP

Round Type
11° Relief
With Insert Hole



Information in "Shape" column



(Legend)
Continuous Cut: ● : 1st Choice ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice ✿ : 2nd Choice

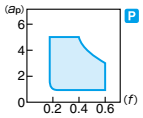
RP■■●●●●●

- ød : 8.0～24.0
- s : 3.18～6.35
- ød1 : 3.3～7.3

SUMIDIA (PCD) Inserts ☞ M22

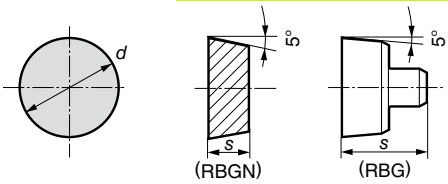
* The applicable holder is handled as made-to-order. Please contact us for details.

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔								✿	✿			◕	✖		●	◕									
M	stainless steel			✿		●	◔	◕	✖					◔	✿	✿																
K	cast iron		✿							●	◕	✖			✿							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	d	s	d_1	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		RPGW 0803M0	8	3.18	3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	●			—	—	—	—	—	—	—	—	—	—	—	●			—
		1004M0	10	4.76	3.8	—	—	—	—	—	—	—	—	—	—	—	—	—	●			—	—	—	—	—	—	—	—	—	—	—	●			—
		1204M0	12	4.76	4.3	—	—	—	—	—	—	—	—	—	—	—	—	—	●			—	—	—	—	—	—	—	—	—	—	—	●			—
		1604M0	16	4.76	5.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	—	—	—	●			—
		2004M0	20	4.76	6.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	—	—	—				—
		2406M0	24	6.35	7.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	—	—	—				—
Rough Cut	RD  0°	RPGT 0803M0N-RD	8	3.18	3.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	●						—
		1004M0N-RD	10	4.76	3.8	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	●						—
		1204M0N-RD	12	4.76	4.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	●						—
		1604M0N-RD	16	4.76	5.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	—						—
		2004M0N-RD	20	4.76	6.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	—						—
		2406M0N-RD	24	6.35	7.3	—	—	—	—	—	—	—	—	—	—	—	—	—				—	—	—	—	—	—	—	—	—						—

▲mark : To be replaced by new item

RB Round Type 5° Relief Without Insert Hole

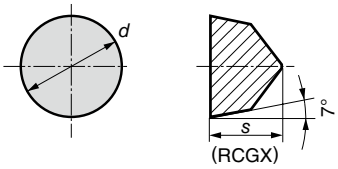


Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

RB

Ceramic Inserts B127

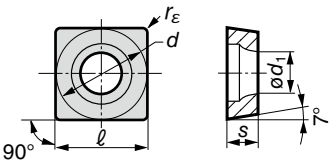
RC Round Type 7° Relief Without Insert Hole

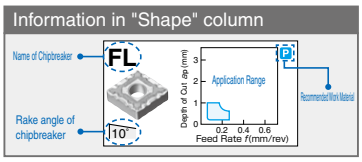


RC

Ceramic Inserts B127

SC Square Type 7° Relief With Insert Hole





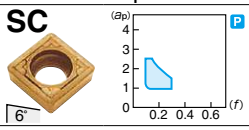
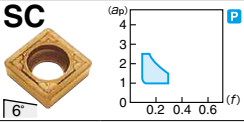
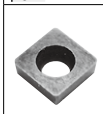
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SC■■0702●●

- ℓ : 7.94
- ød : 7.94
- s : 2.38
- ød1 : 3.4

SUMIDIA (PCD) Inserts ☞ M12
Applicable External Holders ☞ D28

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

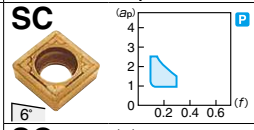
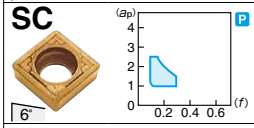
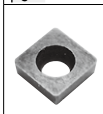
Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting																																	
	SCMT 070204N-SC	0.4													—					—	—	—	—	—	—	—							—
	SCGT 070201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●					●	●			—	—	—	—	—	—	—
	070202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●					●	●			—	—	—	—	—	—	—
	SCGW 070200	0	—	—	—	—																											
	070201	0.1	—	—	—	—																											

Nose radii (r_ε) indicated with "<" have negative tolerances.

SC■■0903●●

- ℓ : 9.525
- ød : 9.525
- s : 3.18
- ød1 : 4.4

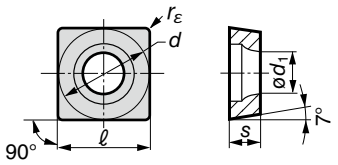
Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

Shape	Cat. No.	r_ε	Coat: AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	Coated Cermet: T1500Z	T3000Z	T2000Z	Cermet: T1000A	T1500A	T110A	T1200A	Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting																																	
	SCMT 090308N-SC	0.8													—					—	—	—	—	—	—	—							—
	SCGT 090301MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—								●	●			—	—	—	—	—	—	—
	090302MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—								●	●			—	—	—	—	—	—	—
	SCGW 090300	0	—	—	—	—																											
	090301	0.1	—	—	—	—																											

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

SC Square Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

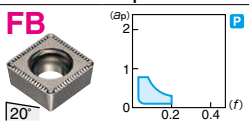
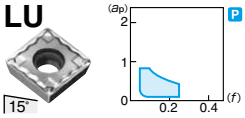
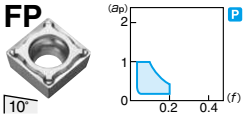
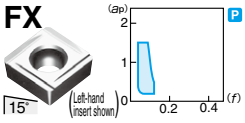
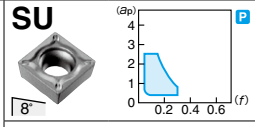
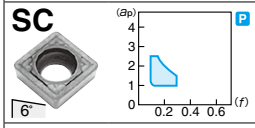
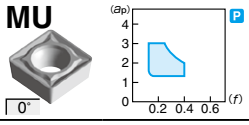
SC■■09T3●●

- ℓ : 9.525
- s : 3.97
- ød : 9.525
- ød1 : 4.4

SUMIDIA (PCD) Inserts M12
Applicable External Holders D28
Applicable Internal Holders E72

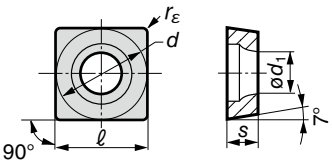
Recommended Application

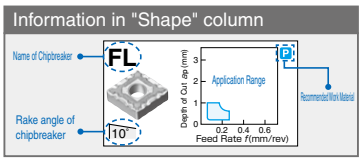
		Coat																	Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	SCMT 09T304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●		—	—	—	—	—	—	—
		SCMT 09T308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●		—	—	—	—	—	—	—
Finishing	LU 	SCMT 09T304N-LU	0.4	●	●		▲		●	●						—					●	●		●	●		▲							
		SCMT 09T308N-LU	0.8	●	●		▲		●	●						—					●	●		●	●		▲							
Finishing	FP 	SCMT 09T304N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●		—	—	—	—	—	—	—
		SCMT 09T308N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●		—	—	—	—	—	—	—
Finishing	FX  (Left-hand insert shown)	SCGT 09T302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●														
		SCGT 09T302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●														
		SCGT 09T304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●														
		SCGT 09T304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●														
Light Cutting	SU 	SCMT 09T304N-SU	0.4	●	●	●	▲	●	●	●						—																		
		SCMT 09T308N-SU	0.8	●	●	●	▲	●	●	●						—					—	—	—	—	—	—	—							—
Light Cutting	SC 	SCGT 09T301MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—				●					●	●		—	—	—	—	—	—	—
		SCGT 09T302MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—				●					●	●		—	—	—	—	—	—	—
Light Cutting		SCMW 09T308	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
Light Cutting		SCGW 09T300	0	—	—	—	—																											
		SCGW 09T301	0.1	—	—	—	—																											
Light-Medium Cut	MU 	SCMT 09T308N-MU	0.8	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—

Nose radii (r_ε) indicated with "<" have negative tolerances.

SC Square Type 7° Relief With Insert Hole





(Legend)

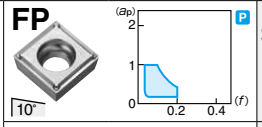
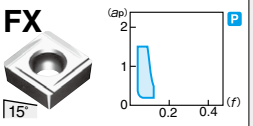
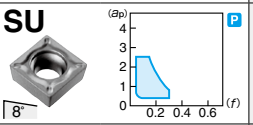
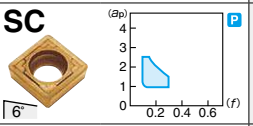
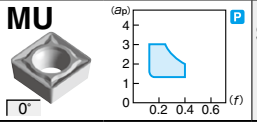
Continuous Cut	● : 1st Choice ○ : 2nd Choice	Medium Cut	◕ : 1st Choice ◔ : 2nd Choice	Interrupted Cut	✖ : 1st Choice ✿ : 2nd Choice

SC■■1204●●

- ℓ : 12.7
- s : 4.76
- ød : 12.7
- ød1 : 5.5

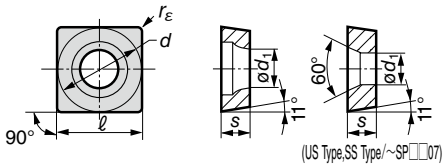
Applicable Internal Holders ☞ E72

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		
	Coat																	Coated Cermet			Cermet				Carbide						

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FP 	SCMT 120404N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	▲	—	—	—	—	—	—	—
		120408N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	▲	—	—	—	—	—	—	—
Finishing	FX 	SCGT 120404R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
		120404L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
		120408R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																			
		120408L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—																			
Light Cutting	SU 	SCMT 120404N-SU	0.4	●	●	●	▲								—					—	—	—	—	—	—	—	—							—
		120408N-SU	0.8	●	●	●	▲								—					—	—	—	—	—	—	—	—							—
Light Cutting	SC 	SCMT 120408N-SC	0.8												—					—	—	—	—	—	—	—	—							—
Light Cutting		SCMW 120408	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		120412	1.2									●	●	●		—					—	—	—	—	—	—	—							—
Light-Medium Cut	MU 	SCMT 120408N-MU	0.8	●	●		▲		●			●	●	●	▲	—					—	—	—	—	—	—	—							—
		120412N-MU	1.2													—					—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SP Square Type 11° Relief With Insert Hole



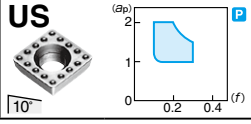
Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ● : 1st Choice ◐ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✖ : 2nd Choice

SP□□0602●●

- ℓ : 6.35
- s : 2.38
- ød : 6.35
- ød1 : 2.8

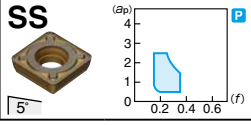
Recommended Application: P steel ● ● ✖; M stainless steel ✖ ● ✖; K cast iron ✖ ● ● ✖; N non-ferrous metal ●; S exotic alloy ● ✖; H hardened steel ●

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Light Cutting	US 	SPMT 060204N-US	0.4						●							—					—	—	—	—	—	—	—			●				—

SP□□0702●●

- ℓ : 7.94
- s : 2.38
- ød : 7.94
- ød1 : 3.4

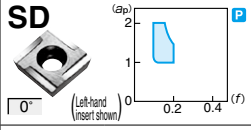
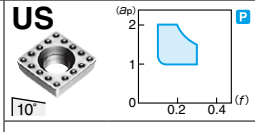
Recommended Application: P steel ● ● ✖; M stainless steel ✖ ● ✖; K cast iron ✖ ● ● ✖; N non-ferrous metal ●; S exotic alloy ● ✖; H hardened steel ●

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Light Cutting	SS 	SPMT 070208N-SS	0.8						●							—					—	—	—	—	—	—	—			●				—

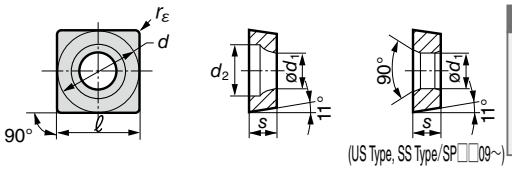
SP□□0703●●

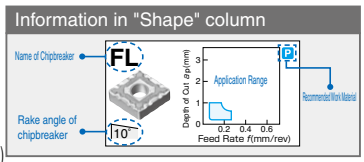
- ℓ : 7.94
- s : 3.18
- ød : 7.94
- ød1 : 3.4

Recommended Application: P steel ● ● ✖; M stainless steel ✖ ● ✖; K cast iron ✖ ● ● ✖; N non-ferrous metal ●; S exotic alloy ● ✖; H hardened steel ●

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Finishing-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	—	—	—	—																											

SP Square Type 11° Relief With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◒ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SP■■0903●●

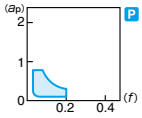
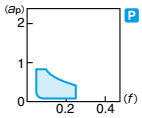
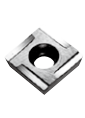
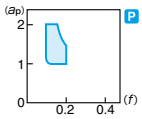
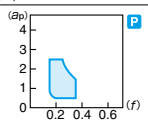
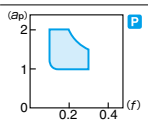
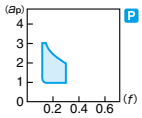
- ℓ : 9.525
- ød : 9.525
- s : 3.18
- ød1 : 3.4*

* 4.4 for SS/US, 3.3 for SF

SUMIDIA (PCD) Inserts ☞ M12

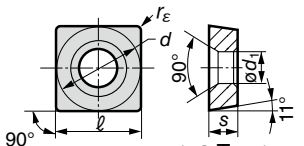
Applicable Internal Holders ☞ E71

Recommended Application		Coat																Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	SPMT 090304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	—	●	●	—	—	—	—	—	—	—	—	—
		SPMT 090308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	—	●	●	—	—	—	—	—	—	—	—	—
	LU 	SPMT 090304N-LU	0.4	●	●		▲		●	●					—							●		●	●		▲							
		SPMT 090308N-LU	0.8	●	●		▲		●	●					—							●		●	●		▲							
Finishing-Light Cutting	SD  	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	SS 	SPMH 090308N-SS	0.8						●						—						—	—	—	—	—	—	—			●				—
	US 	SPMH 090308N-US	0.8						●						—						—	—	—	—	—	—	—			●				—
		SPGW 090300	0.0	—	—	—	—																											
		090304	0.4	—	—	—	—																								●			
Light-Medium Cut	SF 	SPMT 090304N-SF	0.4		●	●	▲								—						—	—	—	—	—	—	—							—
		090308N-SF	0.8		●	●	▲								—						—	—	—	—	—	—	—							—

▲mark : To be replaced by new item

SP Square Type 11° Relief With Insert Hole



(US Type)

Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

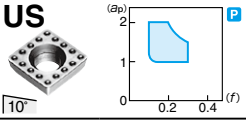
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SP■■09T3●●

- ℓ : 9.525
- s : 3.97
- ød : 9.525
- ød1 : 3.4

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

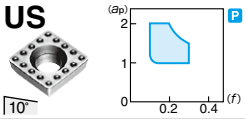
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US 	SPMT 09T308N-US	0.8						●							—					—	—	—	—	—	—	—			●				—

SP■■1204●●

- ℓ : 12.7
- s : 4.76
- ød : 12.7
- ød1 : 5.5

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

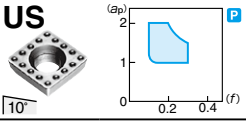
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US 	SPMH 120408N-US	0.8						●							—					—	—	—	—	—	—	—			●				—

SP■■1504●●

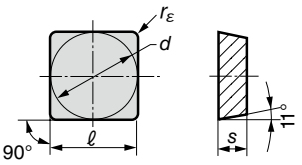
- ℓ : 15.875
- s : 4.76
- ød : 15.875
- ød1 : 6.5

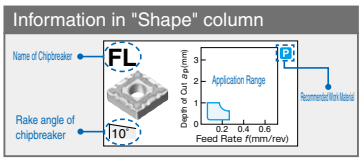
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US 	SPMH 150408N-US	0.8						●							—					—	—	—	—	—	—	—			●				—

SP Square Type 11° Relief Without Insert Hole



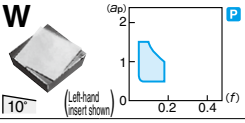


(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◒ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SP■■0702●●

- ℓ : 7.94
- s : 2.38
- ød : 7.94
- ød₁ :

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

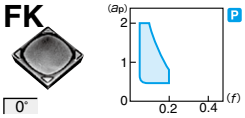
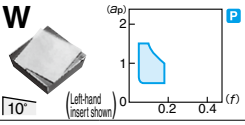
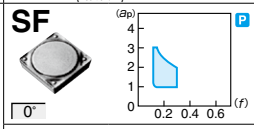
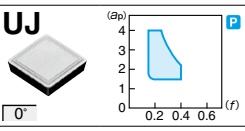
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing-Light Cutting	W 	SPGR 070204L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●						
Light Cutting		SPGN 070204	0.4	—	—	—	—																											●

SP■■0903●●

- ℓ : 9.525
- s : 3.18
- ød : 9.525

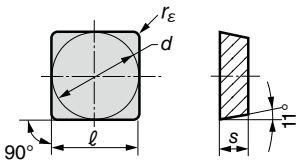
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◒	✖			◔								✪	✪			◒	✖		●	◒									
M stainless steel			✪		●	◔	◒	✖						◔	✪	✪															
K cast iron	✪								●	◒	✖			✪							●										
N non-ferrous metal																															◒
S exotic alloy														◒	✖																
H hardened steel													●																		

SUMIBORON (CBN) Inserts L60 | SUMIDIA (PCD) Inserts M12 | Ceramic Inserts B127
Applicable Internal Holders E73

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 	SPMR 090304N-FK	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●		▲	●	●		▲	—	—	—	—	—	—	
		090308N-FK	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	▲	●	●		▲	—	—	—	—	—	—	
Finishing-Light Cutting	W 	SPGR 090304L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—													●						
Light-Medium Cut	SF 	SPMR 090304N-SF	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		090308N-SF	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
	UJ 	SPMR 090304N-UJ	0.4		●		▲									—					—	—	—	—	—	—	—							—
		090308N-UJ	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
Medium Cut		SPMN 090304	0.4									●	●	●	▲	—								●	●		▲		▲	●				
		090308	0.8									●	●	●	▲	—								●	●		▲			●				
		SPGN 090302	0.2	—	—	—	—																											
		090304	0.4	—	—	—	—																	●	●		▲							●
		090308	0.8	—	—	—	—										●							●	●	▲	▲				●			●
		090312	1.2	—	—	—	—																											

▲mark : To be replaced by new item

SP Square Type 11° Relief Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

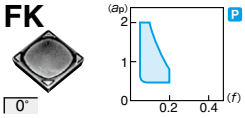
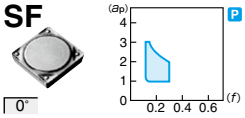
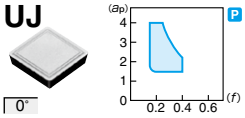
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SP□□1203●●

- ℓ : 12.7
- s : 3.18
- ød : 12.7

SUMIBORON (CBN) Inserts L61 | Ceramic Inserts B127
Applicable External Holders C31

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	T250A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																Coated Cermet			Cermet					Carbide						
P	steel	●	◕	✖			◔								✪	✪		◕	✖		●	◕										
M	stainless steel			✪		●	◔	◕	✖					◔	✪	✪																
K	cast iron		✪							●	◕	✖		✪							●											
N	non-ferrous metal																															◕
S	exotic alloy													◕	✖																	
H	hardened steel																															

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	T250A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 	SPMR 120304N-FK	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲	●	●		▲	—	—	—	—	—	—	—	—
		SPMR 120308N-FK	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲	●	●		▲	—	—	—	—	—	—	—	—
Light-Medium Cut	SF 	SPMR 120304N-SF	0.4		●	●	▲													—	—	—	—	—	—	—	—							—
		SPMR 120308N-SF	0.8		●	●	▲													—	—	—	—	—	—	—	—							—
		SPMR 120312N-SF	1.2		●		▲																				—							
	UJ 	SPMR 120304N-UJ	0.4		●		▲													—	—	—	—	—	—	—	—							—
		SPMR 120308N-UJ	0.8		●	●	▲													—	—	—	—	—	—	—	—							—
Medium Cut		SPMN 120304	0.4									●	●	●	▲												—	●	●		●			
		SPMN 120308	0.8									●	●	●	▲	●							●	●		▲	●	●	●	●	●			
		SPMN 120312	1.2									●	●	●	▲	●		●					●	●		▲	—			●	●			
		SPGN 120304	0.4	—	—	—	—									●							●	●		▲	—				●			
		SPGN 120308	0.8	—	—	—	—									●							●	●		▲	—		●	●	●			
		SPGN 120312	1.2	—	—	—	—																				—				●			

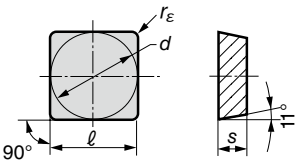
SP□□1204●●

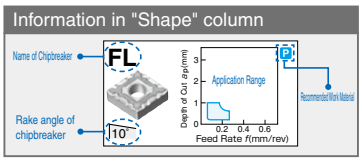
- ℓ : 12.7
- s : 4.76
- ød : 12.7

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SPGN 120408	0.8	—	—	—	—																											
		SPGN 120412	1.2	—	—	—	—																											
		SPGN 120416	1.6	—	—	—	—																											

SP Square Type 11° Relief Without Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SP■■1504●●

- ℓ : 15.875
- s : 4.76
- ød : 15.875

Applicable External Holders ☞C31

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SPMN 150408	0.8													—	●													●	●			
		SPMN 150412	1.2													—														●	●			
		SPGN 150408	0.8	—	—	—	—									—																		
		SPGN 150412	1.2	—	—	—	—									—																		

SP■■1904●●

- ℓ : 19.05
- s : 4.76
- ød : 19.05

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SPMN 190404	0.4													—					—	—	—	—	—	—	—			●				—
		SPMN 190408	0.8													—					—	—	—	—	—	—	—			●				—
		SPMN 190412	1.2													—					—	—	—	—	—	—	—			●	●			—
		SPGN 190404	0.4	—	—	—	—																											
		SPGN 190408	0.8	—	—	—	—																											
		SPGN 190412	1.2	—	—	—	—																											
		SPGN 190416	1.6	—	—	—	—																											

SP■■2506●●

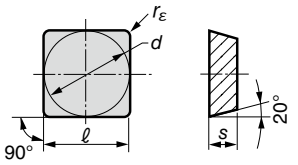
- ℓ : 25.4
- s : 6.35
- ød : 25.4

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC2150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		SPMN 250620	2.0													—					—	—	—	—	—	—	—			▲				—

▲mark : To be replaced by new item

SE Square Type 20° Relief Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

SE■■0702●●

- ℓ : 7.94
- s : 2.38
- ød : 7.94

SUMIDIA (PCD) Inserts ☞ M13

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		SEGN 070202	0.2	—	—	—	—																											
		070204	0.4	—	—	—	—																											●
		070208	0.8	—	—	—	—																											

SE■■0903●●

- ℓ : 9.525
- s : 3.18
- ød : 9.525

SUMIDIA (PCD) Inserts ☞ M13

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		SEGN 090302	0.2	—	—	—	—																											
		090304	0.4	—	—	—	—																											●
		090308	0.8	—	—	—	—																											●

SE■■1203●●

- ℓ : 12.7
- s : 3.18
- ød : 12.7

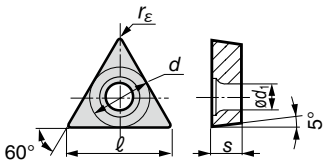
SUMIDIA (PCD) Inserts ☞ M13

Recommended Application: P steel, M stainless steel, K cast iron, N non-ferrous metal, S exotic alloy, H hardened steel

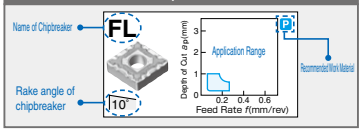
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		SEGN 120304	0.4	—	—	—	—																											●
		120308	0.8	—	—	—	—																											●

TB

Triangular Type
5° Relief
With Insert Hole



Information in "Shape" column



(Legend)

Continuous Cut	● : 1st Choice	○ : 2nd Choice
Medium Cut	◕ : 1st Choice	◔ : 2nd Choice
Interrupted Cut	✖ : 1st Choice	✖ : 2nd Choice

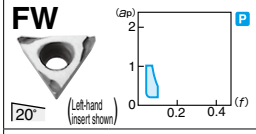
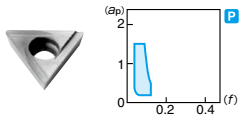
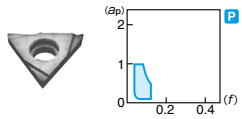
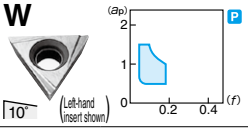
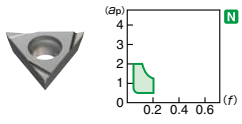
TB■■0601●●

- ℓ : 6.9
- s : 1.59
- ød : 3.97
- ød₁ : 2.2

SUMIBORON (CBN) Inserts L68
SUMIDIA (PCD) Inserts M14
Applicable Internal Holders E24, 25

Recommended Application

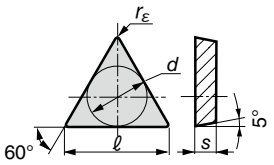
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◕	✖			◔								✖	✖			◕	✖		●	◕									
M	stainless steel			✖		●	◔	◕	✖						◔	✖	✖															
K	cast iron		✖							●	◕	✖			✖							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW  20° (Left-hand insert shown)	TBGT 060102R-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●				●		▲							
		TBGT 060102L-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲		●		▲							
		TBGT 060104R-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●				●		▲							
		TBGT 060104L-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲		●		▲							
	FX  15° (Left-hand insert shown)	TBGT 0601003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 0601003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060101R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060101L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060102R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060102L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060104R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060104L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	FY  15° (Left-hand insert shown)	TBGT 0601003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 0601003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060101R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060101L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TBGT 060102R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	●	●	—	▲	—	—	—	—	—	—	—	—	—
		TBGT 060102L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	●	●	—	▲	—	—	—	—	—	—	—	—	—
		TBGT 060104R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	●	●	—	▲	—	—	—	—	—	—	—	—	—
		TBGT 060104L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	●	●	—	▲	—	—	—	—	—	—	—	—	—
Finishing-Light Cutting	W  10° (Left-hand insert shown)	TBGT 060102R-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	—	▲	●	●	—	▲	—	—	—	●	—	—	—
		TBGT 060102L-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	▲	▲	—	—	—	●	—	—	—
		TBGT 060104R-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	—	—	●	●	—	▲	—	—	—	●	—	—	—
		TBGT 060104L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	—	▲	●	●	▲	▲	—	—	—	●	—	—	—
Light Cutting		TBGW 060102	0.2	—	—	—	—																		●									
		TBGW 060104	0.4	—	—	—	—																		●									
for Aluminium	AY  15°	TBGT 060101R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TBGT 060101L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TBGT 060102R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TBGT 060102L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TBGT 060104R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TBGT 060104L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

▲mark : To be replaced by new item

TB

Triangular Type
5° Relief
Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

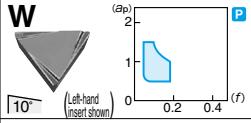
(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✿ : 2nd Choice

TB■■0601●●

- ℓ : 6.9
- s : 1.59
- ød : 3.97
- ød₁ :

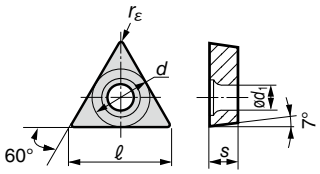
SUMIBORON (CBN) Inserts L68
SUMIDIA (PCD) Inserts M14
Applicable Internal Holders E20

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✿	✿		◕	✖		●	◕									
M stainless steel			✿												✿	✿															
K cast iron		✿			●	◔	◕	✖		●	◕	✖		◔	✿						●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

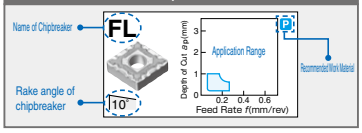
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing–Light Cutting	W 	TBGR 060104L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—									●		▲							
Light Cutting		TBGN 060104	0.4	—	—	—	—																		●		▲							●

TC

Triangular Type
7° Relief
With Insert Hole



Information in "Shape" column

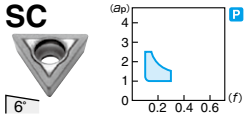


(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◐ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✿ : 2nd Choice

TC□□0802●●

- ℓ : 8.2
- s : 2.38
- ød : 4.76
- ød₁ : 2.3

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 	TCGT 080201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					●	●			—	—	—	—	—	—	—
		TCGT 080202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					●	●			—	—	—	—	—	—	—
		TCGW 080200	0	—	—	—	—																											
		TCGW 080201	0.1	—	—	—	—																											

Nose radii (r_ε) indicated with "<" have negative tolerances.

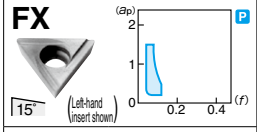
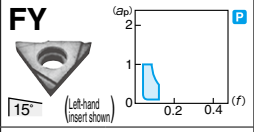
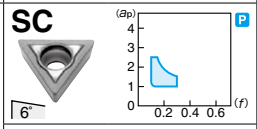
TC□□0902●●

- ℓ : 9.6
- s : 2.38
- ød : 5.56
- ød₁ : 2.5

SUMIDIA (PCD) Inserts ☞ M14

Applicable External Holders ☞ D29

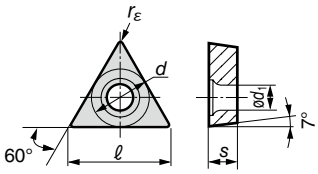
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◐	✖			◔								✿	✿			◐	✖		●	◐									
M stainless steel			✿		●	◔	◐	✖					◔	✿	✿																
K cast iron	✿								●	◐	✖			✿							●										
N non-ferrous metal																															◐
S exotic alloy														◐	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX 	TCGT 090201R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
		TCGT 090201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
		TCGT 090202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
		TCGT 090202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
	FY 	TCGT 090201R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
		TCGT 090201L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
		TCGT 090202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
		TCGT 090202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●																
Light Cutting	SC 	TCGT 090201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●					●	●			—	—	—	—	—	—	—
		TCGT 090202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●					●	●			—	—	—	—	—	—	—
		TCGW 090200	0	—	—	—	—																											
		TCGW 090201	0.1	—	—	—	—																											

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

TC Triangular Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

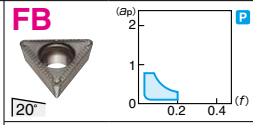
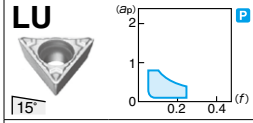
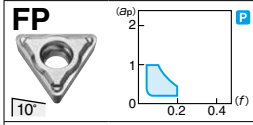
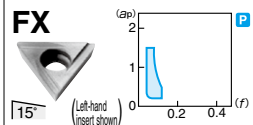
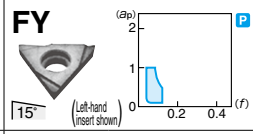
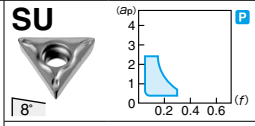
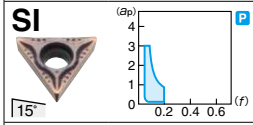
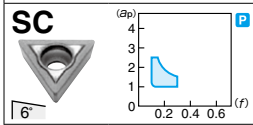
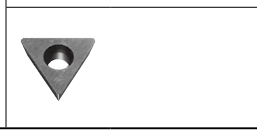
TC■■1102●●

- ℓ : 11.0
- s : 2.38
- ød : 6.35
- ød1 : 2.8

SUMIDIA (PCD) Inserts M14
Applicable External Holders D29

Recommended Application

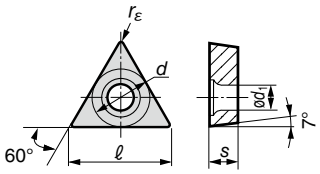
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✿	✿		◕	✖		●	●									
M	stainless steel			✿		●	◔	◕	✖						◔	✿	✿															
K	cast iron		✿							●	◕	✖			✿							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

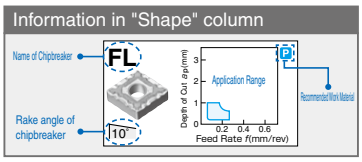
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	TCMT 110204N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●		—	—	—	—	—	—	—	—
		TCMT 110208N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	●		—	—	—	—	—	—	—	—
	LU 	TCMT 110204N-LU	0.4	●	●		▲		●	●						—					●	●		●	●	▲							
		TCMT 110208N-LU	0.8	●	●		▲		●	●						—					●	●		●	●	▲							
	FP 	TCMT 110204N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		—	—	—	—	—	—	—	—
		TCMT 110208N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		—	—	—	—	—	—	—	—
	FX 	TCGT 110201R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
		TCGT 110201L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
		TCGT 110202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
		TCGT 110202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
	FY 	TCGT 110201R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
		TCGT 110201L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
		TCGT 110202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
		TCGT 110202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●															
Light Cutting	SU 	TCMT 110204N-SU	0.4	●	●	●	▲	●	●	●	●					—		●	●															
		TCMT 110208N-SU	0.8	●	●	●	▲	●	●	●	●					—		●	●		—	—	—	—	—	—	—							—
	SI 	TCGT 110204MN-SI	<0.4					●	●							—	●	●	●		●			●	●									
	SC 	TCGT 110201MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—			●				●	●			—	—	—	—	—	—	—	—
		TCGT 110202MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●				●	●			—	—	—	—	—	—	—	—
		TCMW 110204	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		TCMW 110208	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
		TCGW 110200	0	—	—	—	—																										
		TCGW 110201	0.1	—	—	—	—																										

Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

TC Triangular Type 7° Relief With Insert Hole



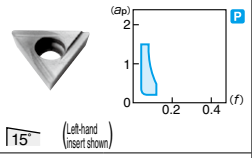
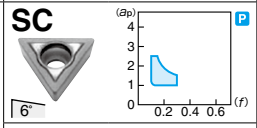


(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✿ : 2nd Choice

TC■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35
- ød₁ : 2.8

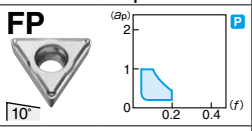
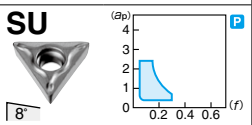
Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P steel	●	◕	✖			◔								✿	✿			◕	✖		●	◕									
M stainless steel			✿		●	◔	◕	✖					◔	✿	✿																
K cast iron	✿								●	◕	✖			✿							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX 	TCGT 110301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—
		TCGT 110301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—
		TCGT 110302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—
		TCGT 110302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—
		TCGT 110304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—
		TCGT 110304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—
Light Cutting	SC 	TCGT 110301MN-SC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—
		TCGT 110302MN-SC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—
		TCGW 110300	0	—	—	—	—																											
		TCGW 110301	0.1	—	—	—	—																											

TC■■16T3●●

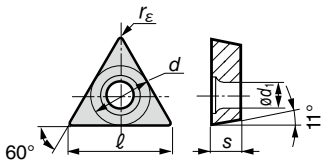
- ℓ : 16.5
- s : 3.97
- ød : 9.525
- ød₁ : 4.3

Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FP 	TCMT 16T304N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	▲	—	—	—	—	—	—	—
		TCMT 16T308N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	▲	—	—	—	—	—	—	—
Light Cutting	SU 	TCMT 16T304N-SU	0.4	●	●	●	▲	●	●	●						—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TCMT 16T308N-SU	0.8	●	●	●	▲	●	●	●						—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TCMW 16T304	0.4									●	●	●	▲	—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TCMW 16T308	0.8									●	●	●	▲	—					—	—	—	—	—	—	—	—	—	—	—	—	—	—
		TCMW 16T312	1.2									●	●	●		—					—	—	—	—	—	—	—	—	—	—	—	—	—	—

▲mark : To be replaced by new item

TP Triangular Type 11° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TP■■0802●●

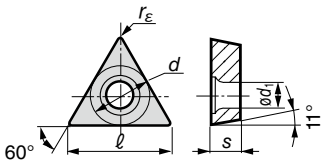
- ℓ : 8.2
- s : 2.38
- ød : 4.76
- ød1 : 2.4

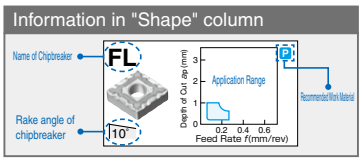
SUMIBORON (CBN) Inserts ☞ L69
SUMIDIA (PCD) Inserts ☞ M15
Applicable Internal Holders ☞ E24 to E26

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron			✪						●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.		r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB (20°)	TPMT	080202N-FB New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
			080204N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
	LU (15°)	TPMT	080202N-LU	0.2						●	●	●					—			●					●	●		▲							
			080204N-LU	0.4						●	●	●					—			●					●	●		▲							
	FW (20°, Left-hand insert shown)	TPGT	080202R-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●		▲							
			080202L-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●		▲	●	●		▲							
			080204R-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●			●	●		▲							
			080204L-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●		▲	●	●		▲							
	FX (15°, Left-hand insert shown)	TPGT	080202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—			●	●															
			080202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—			●	●															
			080204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—			●	●															
			080204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—			●	●															
	FY (15°, Left-hand insert shown)	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–Light Cutting	W (10°, Left-hand insert shown)	TPGT	080202R-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●		●	●	▲	●	●		▲				●			
			080202L-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●		●	●	▲	●	●	▲	▲	●			●			
			080204R-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●		●		▲	●	●	▲	▲							
			080204L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●		●	●	▲	●	●	▲	▲				●			
Light Cutting	SU (8°)	TPMT	080202N-SU	0.2						●	●	●					—			●					●	●		▲							
			080204N-SU	0.4						●	●	●					—			●					●	●		▲							
		TPGW	080202	0.2	—	—	—	—																	●	●		▲							
			080204	0.4	—	—	—	—																											
for Aluminium	AY (15°)	TPGT	080201R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			080201L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			080202R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			080202L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			080204R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			080204L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

TP — Triangular Type / 11° Relief / With Insert Hole





(Legend) Continuous Cut: ● : 1st Choice, ○ : 2nd Choice; Medium Cut: ◕ : 1st Choice, ◔ : 2nd Choice; Interrupted Cut: ✖ : 1st Choice, ✿ : 2nd Choice

TP■■0902●●

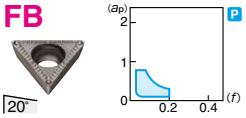
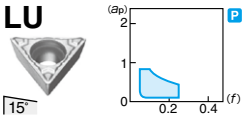
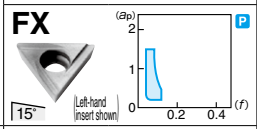
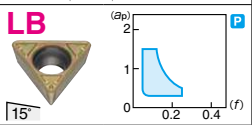
- ℓ : 9.6
- s : 2.38
- ød : 5.56
- ød₁ : 2.8*

SUMIBORON (CBN) Inserts ☞ L70 | SUMIDIA (PCD) Inserts ☞ M5 | Applicable Internal Holders ☞ E24

* 2.5 for FX

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.		r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	TPMT 090202N-FB New		0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
		TPMT 090204N-FB New		0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
Finishing	LU 	TPMT 090202N-LU		0.2		●		▲									—					●	●		●	●		▲							
		TPMT 090204N-LU		0.4		●		▲									—					●	●		●	●		▲							
Finishing	FX 	TPGT 090204L-FX		0.4	—	—	—	—	—	—	—	—	—	—	—	—	—								●	●		▲							
Light Cutting	LB 	TPMT 090202N-LB New		0.2		●	●				●	●					—					●	●			●									
		TPMT 090204N-LB New		0.4		●	●				●	●					—					●	●			●									

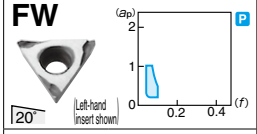
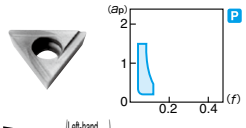
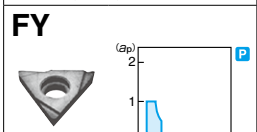
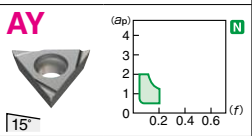
TP■■1102●●

- ℓ : 11.0
- s : 2.38
- ød : 6.35
- ød₁ : 2.8

SUMIBORON (CBN) Inserts ☞ From L71 | SUMIDIA (PCD) Inserts ☞ M16

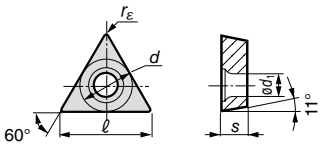
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.		r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW 	TPGT 110202R-FW		0.2	—	—	—	—	—	—	—	—	—	—	—	—	—					●			●	●		▲							
		110202L-FW		0.2	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	●	●		▲							
		110204R-FW		0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	●	●		▲							
		110204L-FW		0.4	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	●	●		▲							
Finishing	FX 	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	—	—	—	—	—	—	—	—	—	—	—	—	—	●																	
Finishing	FY 	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 Aluminium	AY 	TPGT 110202R-AY New		0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110202L-AY New		0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110204R-AY New		0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110204L-AY New		0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

▲mark : To be replaced by new item

TP Triangular Type 11° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

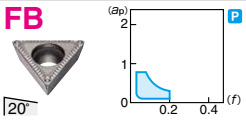
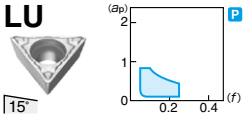
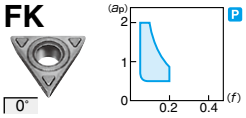
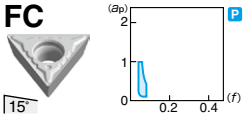
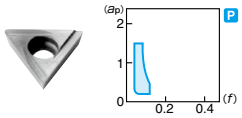
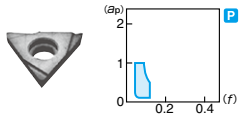
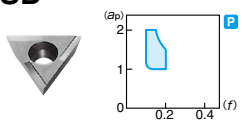
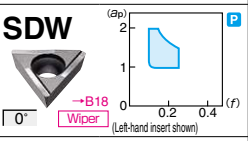
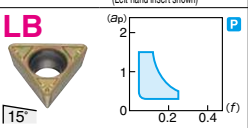
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TP■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35
- ød₁ : 3.4

SUMIBORON (CBN) Inserts From L72
SUMIDIA (PCD) Inserts M16
Applicable Internal Holders E24 to E26

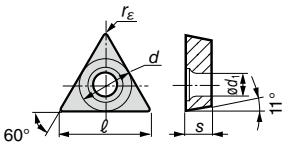
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

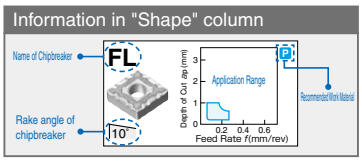
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Finishing	FB 	TPMT 110302N-FB New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●		●	●			—	—	—	—	—	—	
		TPMT 110304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●		●	●			—	—	—	—	—	—	
		TPMT 110308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●		●	●			—	—	—	—	—	—	
	LU 	TPMT 110302N-LU	0.2								●					—			●		●		▲	●	●									
		TPMT 110304N-LU	0.4	●	●		▲		●	●	●					—			●		●	●	▲	●	●		▲							
		TPMT 110308N-LU	0.8	●	●		▲		●	●	●					—			●		●	●	▲	●	●		▲							
	FK 	TPMT 110308N-FK	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●			—	—	—	—	—	—	
	FC 	TPGT 110302MN-FC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●					●	●			—	—	—	—	—	—	
		TPGT 110304MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●					●	●			—	—	—	—	—	—	
	FX 	TPGT 110302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●															
		TPGT 110302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●															
		TPGT 110304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●															
		TPGT 110304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●															
		TPGT 110308R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●															
		TPGT 110308L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●															
	FY 	TPGT 1103003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●														
		TPGT 1103003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●														
		TPGT 110301R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●														
		TPGT 110301L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●														
		TPGT 110302R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●		▲	●	●		▲							
		TPGT 110302L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	▲	●	●		▲							
		TPGT 110304R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●		▲	●	●		▲							
		TPGT 110304L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	●	●	▲	●	●		▲							
		TPGT 110308R-FY	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●						●		▲							
		TPGT 110308L-FY	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●						●		▲							
Finishing-Light Cutting	SD 	TPGT 110302R-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●		●			●	●	▲	▲							
		TPGT 110302L-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—			●		●	●	▲	●	●	▲	▲				●			
		TPGT 110304R-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—			●		●	●	▲	●	●	▲	▲				●			
		TPGT 110304L-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●		●	●	▲	●	●	▲	▲	●			●			
		TPGT 110308R-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—			●		●			●	●		▲							
		TPGT 110308L-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—			●		●	●	▲	●	●	▲	▲				●			
	SDW 	TPGX 110304R-SDW	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—						●												
		TPGX 110304L-SDW	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—						●												
		TPGX 110308R-SDW	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—						●												
		TPGX 110308L-SDW	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—						●												
Light Cutting	LB 	TPMT 110302N-LB New	0.2		●	●				●	●					—					●	●			●									
		TPMT 110304N-LB New	0.4		●	●				●	●					—					●	●			●									
		TPMT 110308N-LB New	0.8		●	●				●	●					—					●	●			●									

Nose radii (r_ε) indicated with "<" have negative tolerances.

TP

Triangular Type
11° Relief
With Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◓ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TP■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35
- ød1 : 3.4

SUMIBORON (CBN) Inserts ☞ From L72 | SUMIDIA (PCD) Inserts ☞ M16 | Applicable Internal Holders ☞ E24 to E26

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SU (8°, P)	TPMT 110302N-SU	0.2		●	●	▲	●	●	●	●					—			●		●		▲	●	●		▲							
		TPMT 110304N-SU	0.4	●	●	●	▲	●	●	●	●					—			●		●	●	▲	●	●		▲							
		TPMT 110308N-SU	0.8	●	●	●	▲	●	●	●	●					—			●		●	●	▲	●	●		▲							
		TPGW 110302	0.2	—	—	—	—									●																		
		TPGW 110304	0.4	—	—	—	—									●	●							●	●	▲	▲				●			
		TPGW 110308	0.8	—	—	—	—									●								●	●		▲							
Light-Medium Cut	MU (0°, P)	TPMT 110304N-MU	0.4	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
		TPMT 110308N-MU	0.8	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
	SF (0°, P)	TPMH 110304N-SF	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		TPMH 110308N-SF	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
for Aluminium	AY (15°, N)	TPGT 110301R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TPGT 110301L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TPGT 110302R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TPGT 110302L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TPGT 110304R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		TPGT 110304L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

TP■■1603●●

- ℓ : 16.5
- s : 3.18
- ød : 9.525
- ød1 : 4.4

SUMIBORON (CBN) Inserts ☞ L76 | SUMIDIA (PCD) Inserts ☞ M17

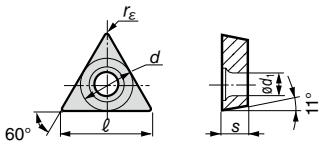
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB (20°, P)	TPMT 160304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
		TPMT 160308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—

▲mark : To be replaced by new item

TP Triangular Type 11° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

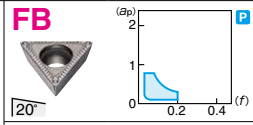
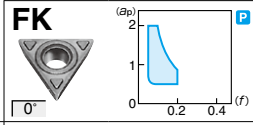
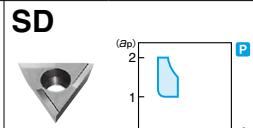
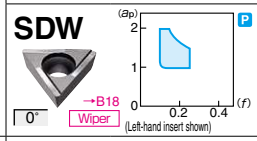
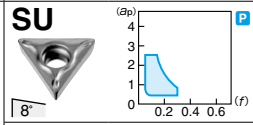
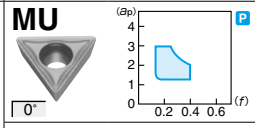
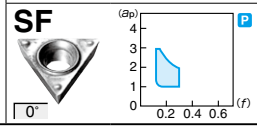
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TP■■1604●●

- ℓ : 16.5
- s : 4.76
- ød : 9.525
- ød1 : 4.4

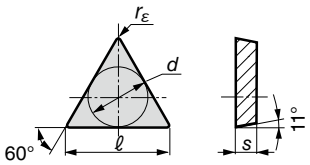
SUMIBORON (CBN) Inserts From L76
SUMIDIA (PCD) Inserts M17
Applicable Internal Holders E25

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

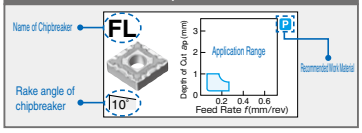
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	TPMT 160404N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
		TPMT 160408N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	—
Finishing	FK 	TPMT 160404N-FK	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲	▲	—	—	—	—	—	—	—
		TPMT 160408N-FK	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●	▲	▲	—	—	—	—	—	—	—
Finishing-Light Cutting	SD 	TPGT 160402R-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●		▲				●			
		TPGT 160402L-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—										●	●	▲	▲				●			
		TPGT 160404R-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●	●	▲		●	●		▲				●			
		TPGT 160404L-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—		●				●	●	▲		●	●	▲	▲	●			●			
		TPGT 160408R-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●				●	●		▲				●			
		TPGT 160408L-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●		▲		●	●	▲	▲	●			●			
Finishing-Light Cutting	SDW 	TPGX 160404R-SDW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●				●			—	—	—	—	—	—	—
		TPGX 160404L-SDW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●				●			—	—	—	—	—	—	—
		TPGX 160408R-SDW	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●				●			—	—	—	—	—	—	—
		TPGX 160408L-SDW	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●				●			—	—	—	—	—	—	—
Light Cutting	SU 	TPMT 160404N-SU	0.4	●	●	●	▲	●	●	●						—					●	●	▲	●	●		▲							
		TPMT 160408N-SU	0.8	●	●	●	▲	●	●	●						—					●	●	▲	●	●		▲							
		TPGW 160400	0.0	—	—	—	—																											
		TPGW 160404	0.4	—	—	—	—										●														●			
Light-Medium Cut	MU 	TPMT 160404N-MU	0.4	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
		TPMT 160408N-MU	0.8	●	●		▲		●	●		●	●	●	▲	—					—	—	—	—	—	—	—							—
Light-Medium Cut	SF 	TPMT 160404N-SF	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		TPMT 160408N-SF	0.8		●	●	▲									—					—	—	—	—	—	—	—							—

TP

Triangular Type
11° Relief
Without Insert Hole



Information in "Shape" column



(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✪ : 2nd Choice

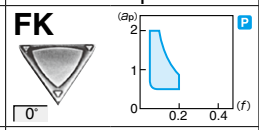
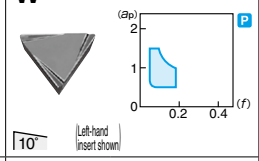
TP■■0902●●

- ℓ : 9.6
- s : 2.38
- ød : 5.56

SUMIBORON (CBN) Inserts ☞ L79
SUMIDIA (PCD) Inserts ☞ M18

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 	TPMR 090204N-FK	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	▲	—	—	—	—	—	—	—
Finishing-Light Cutting	W 	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	●

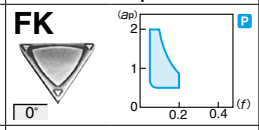
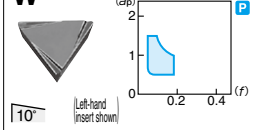
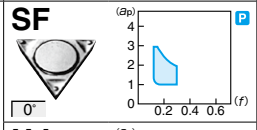
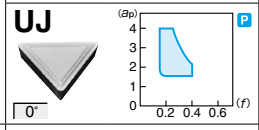
TP■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35

SUMIBORON (CBN) Inserts ☞ From L79
SUMIDIA (PCD) Inserts ☞ M18
Ceramic Inserts ☞ B127
Applicable Internal Holders ☞ E31

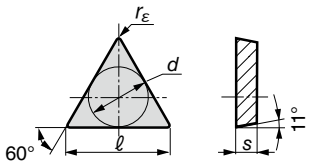
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 	TPMR 110302N-FK	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	▲	—	—	—	—	—	—	—
		110304N-FK	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
		110308N-FK	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		▲	●	●	▲	▲	—	—	—	—	—	—	—
Finishing-Light Cutting	W 	TPGR 110302R-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●			—	—	—	—	—	—	—
		110302L-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●			—	—	—	—	—	—	—
		110304R-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●		▲							
		110304L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●	▲	▲	●						
		110308L-W	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●		▲							
Light-Medium Cut	SF 	TPMR 110304N-SF	0.4		●	●	▲									—					—	—	—	—	—	—	—	●						—
		110308N-SF	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
Light-Medium Cut	UJ 	TPMR 110304N-UJ	0.4		●	●	▲									—					—	—	—	—	—	—	—							—
		110308N-UJ	0.8		●	●	▲									—					—	—	—	—	—	—	—							—
Medium Cut		TPMN 110304	0.4									●	●	●	▲	—	●												●	●				
		110308	0.8									●	●	●	▲	—	●												●	●				

▲mark : To be replaced by new item

TP Triangular Type 11° Relief Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TP■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35

SUMIBORON (CBN) Inserts From L79 | SUMIDIA (PCD) Inserts M18 | Ceramic Inserts B127
Applicable Internal Holders E31

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cut		TPGN 110302	0.2	—	—	—	—																	●	●		▲							●
		110304	0.4	—	—	—	—										●							●	●	▲	▲				●			●
		110308	0.8	—	—	—	—																	●	●		▲				●			●
		110312	1.2	—	—	—	—																											

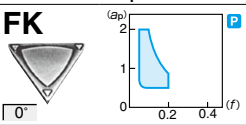
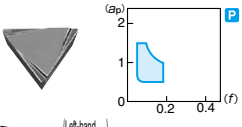
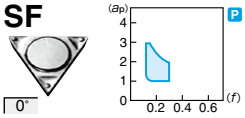
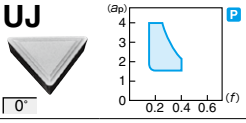
TP■■1603●●

- ℓ : 16.5
- s : 3.18
- ød : 9.525

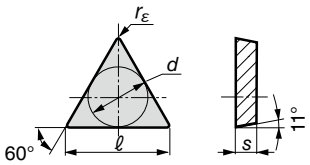
SUMIBORON (CBN) Inserts L81 | SUMIDIA (PCD) Inserts M18 | Ceramic Inserts B127
Applicable External Holders C32 | Applicable Internal Holders E31

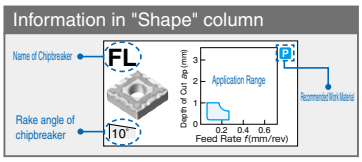
Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK 	TPMR 160304N-FK	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
		160308N-FK	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	▲	●	●	▲	▲	—	—	—	—	—	—	—
		160312N-FK	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					●		▲	—	—	—	—	—	—	—
Finishing-Light Cutting	W 	TPGR 160302R-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●			—	—	—	—	—	—	—
		160302L-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●			—	—	—	—	—	—	—
		160304R-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●		▲							
		160304L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●	▲	▲	●						
		160308R-W	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●			—	—	—	—	—	—	—
		160308L-W	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●			●	●		▲							
Light-Medium Cut	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 Cut		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	—	—	—	—									—																		

TP — Triangular Type / 11° Relief / Without Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TP■■1604●●

- ℓ : 16.5
- s : 4.76
- ød : 9.525

Recommended Application		Coat																Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε
Medium Cut		TPGN 160404	0.4
		TPGN 160408	0.8
		TPGN 160412	1.2
		TPGN 160416	1.6

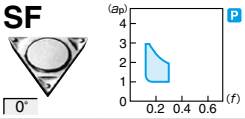
TP■■2204●●

- ℓ : 22.0
- s : 4.76
- ød : 12.7

SUMIBORON (CBN) Inserts ☞ L82

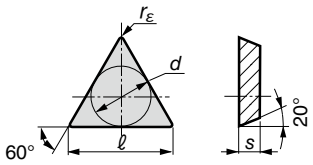
Applicable External Holders ☞ C32

Recommended Application		Coat																Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε
Light-Medium Cut	SF 	TPMR 220408N-SF	0.8
		TPMR 220412N-SF	1.2
Medium Cut		TPMN 220404	0.4
		TPMN 220408	0.8
		TPMN 220412	1.2
		TPMN 220416	1.6
		TPGN 220404	0.4
		TPGN 220408	0.8
		TPGN 220412	1.2
		TPGN 220416	1.6

▲mark : To be replaced by new item

TE Triangular Type 20° Relief Without Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TE■■1102●●

- ℓ : 11.0
- s : 2.38
- ød : 6.35

SUMIDIA (PCD) Inserts ☞ M19

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		TEGN 110202	0.2	—	—	—	—																											●
		TEGN 110204	0.4	—	—	—	—																											●
		TEGN 110208	0.8	—	—	—	—																											

TE■■1103●●

- ℓ : 11.0
- s : 3.18
- ød : 6.35

SUMIDIA (PCD) Inserts ☞ M19

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting		TEGN 110302	0.2	—	—	—	—																											●
		TEGN 110304	0.4	—	—	—	—																											●
		TEGN 110308	0.8	—	—	—	—																											●

TE■■1603●●

- ℓ : 16.5
- s : 3.18
- ød : 9.525

SUMIDIA (PCD) Inserts ☞ M19

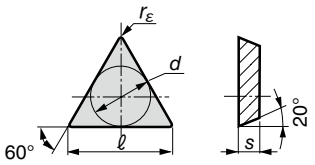
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

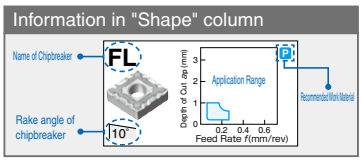
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut		TEGN 160302	0.2	—	—	—	—																											●
		TEGN 160304	0.4	—	—	—	—																											●
		TEGN 160308	0.8	—	—	—	—																		●		▲							●

▲mark : To be replaced by new item

TE

Triangular Type
20° Relief
Without Insert Hole





(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◐ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

TE■■2204●●

- ℓ : 22.0
- s : 4.76
- ød : 12.7

SUMIDIA (PCD) Inserts ☞ M19

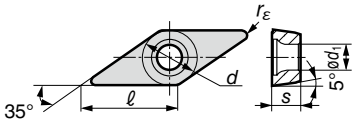
Recommended Application		Coat																Coated Cermet			Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◐	✖			◔								✪	✪			◐	✖		●	◐									
M	stainless steel			✪		●	◔	◐	✖						◔	✪	✪															
K	cast iron		✪							●	◐	✖			✪							●										
N	non-ferrous metal																															◐
S	exotic alloy														◐	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light-Medium Cut		TEGN 220404	0.4	—	—	—	—																											●
		220408	0.8	—	—	—	—																											
		220412	1.2	—	—	—	—																											

▲mark : To be replaced by new item

VB

35° Diamond Type
5° Relief
With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

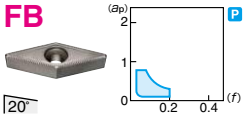
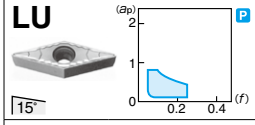
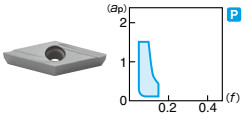
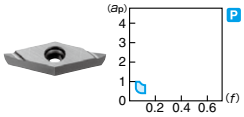
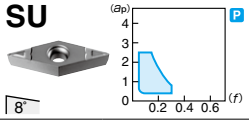
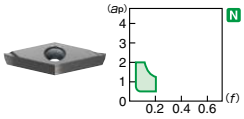
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

VB■■1103●●

- ℓ : 11.1
- s : 3.18
- ød : 6.35
- ød₁ : 2.8

SUMIBORON (CBN) Inserts From L86
Applicable Internal Holders E55, 56, 58, 59

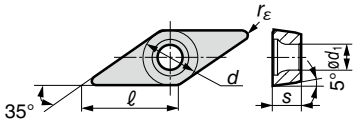
Recommended Application: P steel; M stainless steel; K cast iron; N non-ferrous metal; S exotic alloy; H hardened steel

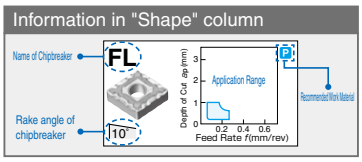
	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
				Coat																	Coated Cermet			Cermet				Carbide						
Finishing	FB 	VBMT 110302N-FB New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
		110304N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
		110308N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	LU 	VBMT 110302N-LU	0.2													—			●		●			●	●									
		110304N-LU	0.4	●	●		▲		●		●					—			●		●	●	▲	●	●		▲							
		110308N-LU	0.8						●	●	●					—			●		—	—	—	—	—	—	—							—
	FX 	VBGT 110301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●									
		110304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●									
	FY 	VBGT 110301R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110301L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110302R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110302L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●		●			●	●			—	—	—	—	—	—	
		110304R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
		110304L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
Light Cutting	SU 	VBMT 110302N-SU	0.2													—			●															
		110304N-SU	0.4					●	●		●					—			●			●												
		110308N-SU	0.8					●	●	●						—			●		—	—	—	—	—	—	—							—
for Aluminium	AY 	VBGT 110301R-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110301L-AY New	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110302R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110302L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110304R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110304L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

▲mark : To be replaced by new item

VB

35° Diamond Type
5° Relief
With Insert Hole





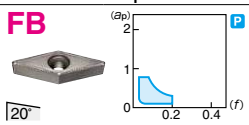
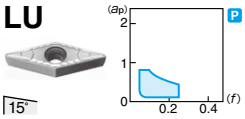
VB■■1604●●

- ℓ : 16.6
- ød : 9.525
- s : 4.76
- ød₁ : 4.4

SUMIBORON (CBN) Inserts From L87

(Legend) Continuous Cut: ● : 1st Choice, ○ : 2nd Choice; Medium Cut: ◓ : 1st Choice, ◔ : 2nd Choice; Interrupted Cut: ✖ : 1st Choice, ✪ : 2nd Choice

Recommended Application	Coat																Coated Cermet			Cermet				Carbide						
	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB** 	VBMT 160404N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
		VBMT 160408N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●		●	●		●	●			—	—	—	—	—	—	
	LU 	VBMT 160404N-LU	0.4	●	●		▲		●	●	●					—			●		●	●		●	●		▲							
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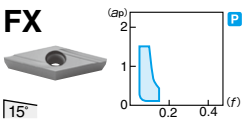
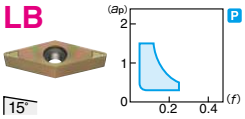
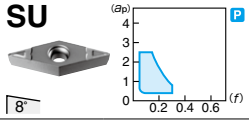
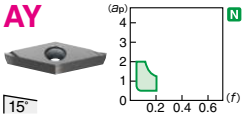
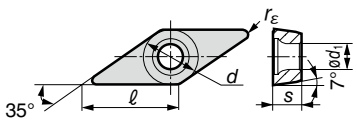
	FX 	VBGT 160402R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—										●	●			—	—	—	—	—	—	
		VBGT 160402L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—										●	●			—	—	—	—	—	—	
		VBGT 160404R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—										●	●			—	—	—	—	—	—	
		VBGT 160404L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—										●	●			—	—	—	—	—	—	
Light Cutting	**LB** 	VBMT 160404N-LB New	0.4		●	●				●	●					—					●	●			●									
		VBMT 160408N-LB New	0.8		●	●				●	●					—					●	●			●									
		VBMT 160412N-LB New	1.2		●	●				●	●					—					●	●			●									
	SU 	VBMT 160404N-SU	0.4	●	●	●	▲	●	●	●	●					—					●	●		●	●		▲							
		VBMT 160408N-SU	0.8	●	●	●	▲	●	●	●	●					—					●	●		●	●		▲							
		VBMT 160412N-SU	1.2		●											—					—	—	—	—	—	—	—							—
Light-Medium Cut		VBMW 160404	0.4									●	●	●	▲	—					—	—	—	—	—	—	—							—
		VBMW 160408	0.8									●	●	●	▲	—					—	—	—	—	—	—	—							—
for Aluminium	**AY** 	VBGT 160402R-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VBGT 160402L-AY New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VBGT 160404R-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VBGT 160404L-AY New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

▲mark : To be replaced by new item

VC 35° Diamond Type 7° Relief With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

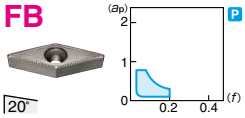
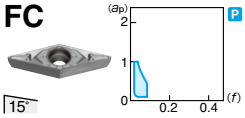
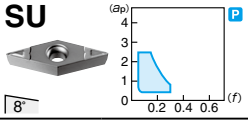
VC■■0802●●

- ℓ : 8.3
- s : 2.38
- ød : 4.76
- ød1 : 2.3

SUMIBORON (CBN) Inserts L89
Applicable Internal Holders E55, E57, E58, E60

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	VCMT 080202N-FB New	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	●	●	—	—	—	—	—	—	—	—	—
		VCMT 080204N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	●	●	—	—	—	—	—	—	—	—	—
Finishing	FC 	VCGT 080204MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Light Cutting	SU 	VCMT 080204N-SU	0.4						●	●	●					—			●		—	—	—	—	—	—	—							—

Nose radii (r_ε) indicated with "<" have negative tolerances.

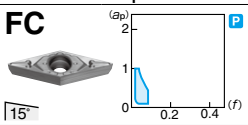
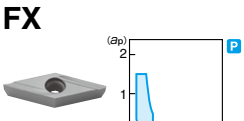
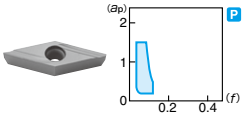
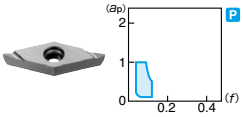
VC■■1103●●

- ℓ : 11.1
- s : 3.18
- ød : 6.35
- ød1 : 2.8

SUMIBORON (CBN) Inserts L90
SUMIDIA (PCD) Inserts M20
Applicable External Holders C30, D15, 18, 31
Applicable Internal Holders E57 to E60

Recommended Application

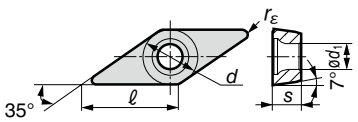
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P	steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M	stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K	cast iron		✪							●	◕	✖			✪							●										
N	non-ferrous metal																															◕
S	exotic alloy														◕	✖																
H	hardened steel													●																		

	Shape	Cat. No.	r_ε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FC 	VCGT 110301MN-FC	<0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●				●	●			—	—	—	—	—	—	—
		110302MN-FC	<0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●				●	●			—	—	—	—	—	—	—
		110304MN-FC	<0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	●				●	●			—	—	—	—	—	—	—
Finishing	FX 	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●									—	—	—	—	—	—	—
Finishing	FX 	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●								—	—	—	—	—	—	—
Finishing	FY 	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●									—	—	—	—	—	—	—

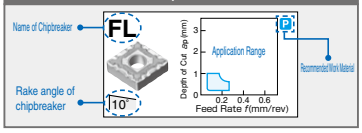
Nose radii (r_ε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

VC 35° Diamond Type 7° Relief With Insert Hole



Information in "Shape" column



(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◐ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

VC■■1103●●

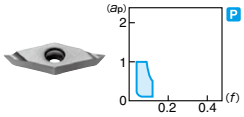
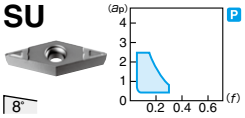
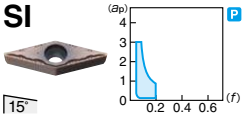
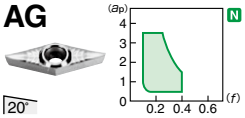
- ℓ : 11.1
- s : 3.18
- ød : 6.35
- ød₁ : 2.8

SUMIBORON (CBN) Inserts L90 | SUMIDIA (PCD) Inserts M20

Applicable External Holders C30, D15, 18, 31 | Applicable Internal Holders E57 to E60

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FY 	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 	VCMT 110302N-SU	0.2						●	●						—					—	—	—	—	—	—	—							—
		110304N-SU	0.4						●	●						—					—	—	—	—	—	—	—							—
		110308N-SU	0.8						●	●						—					—	—	—	—	—	—	—							—
Light Cutting	SI 	VCGT 110301MN-SI	<0.1					●	●							—	●	●	●		●			●	●									
		110302MN-SI	<0.2					●	●							—	●	●	●		●			●	●									
		110304MN-SI	<0.4					●	●							—	●	●	●		●			●	●									
		110308MN-SI	<0.8					●	●							—	●	●	●		●			●	●									
for Aluminium	AG 	VCGT 110302N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		110304N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

Nose radii (rε) indicated with "<" have negative tolerances.

VC■■1604●●

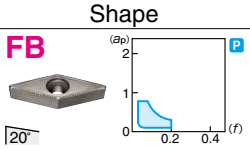
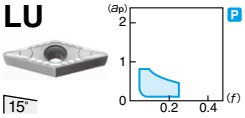
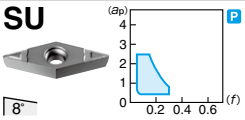
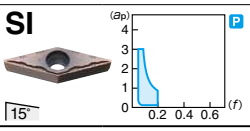
- ℓ : 16.6
- s : 4.76
- ød : 9.525
- ød₁ : 4.4

SUMIBORON (CBN) Inserts L91 | SUMIDIA (PCD) Inserts M20

Applicable Internal Holders E55, 56

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

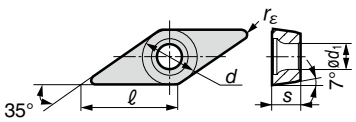
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 	VCMT 160404N-FB New	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	—	●	●	—	—	—	—	—	—	—	—	—
		160408N-FB New	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	—	●	●	—	—	—	—	—	—	—	—	—
Finishing	LU 	VCMT 160404N-LU	0.4	●	●		▲		●	●						—					●	●		●	●		▲							
		160408N-LU	0.8	●	●		▲		●	●						—					●	●		●	●		▲							
Light Cutting	SU 	VCMT 160404N-SU	0.4	●	●	●	▲	●	●	●						—		●	●		—	—	—	—	—	—	—							—
		160408N-SU	0.8	●	●	●	▲	●	●	●						—		●	●		—	—	—	—	—	—	—							—
Light Cutting	SI 	VCGT 160401MN-SI	<0.1					●	●	—	—					—	●	●	●		●			●	●									
		160402MN-SI	<0.2					●	●	—	—					—	●	●	●		●			●	●									
		160404MN-SI	<0.4					●	●	—	—					—	●	●	●		●			●	●									

Nose radii (rε) indicated with "<" have negative tolerances.

▲mark : To be replaced by new item

VC

35° Diamond Type
7° Relief
With Insert Hole



Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

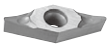
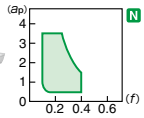
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice | Medium Cut ◕ : 1st Choice ◔ : 2nd Choice | Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

VC■■1604●●

- ℓ : 16.6
- s : 4.76
- ød : 9.525
- ød1 : 4.4

SUMIBORON (CBN) Inserts L91
SUMIDIA (PCD) Inserts M20
Applicable Internal Holders E55, 56

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P steel		●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel				✪		●	◔	◕	✖						◔	✪	✪															
K cast iron			✪							●	◕	✖			✪	◔						●										
N non-ferrous metal																																◕
S exotic alloy															◕	✖																
H hardened steel														●																		

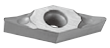
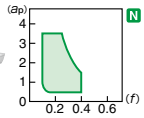
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
for Aluminium	AW  25°	VCGT 160408N-AW	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VCGT 160412N-AW	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AG 20° 	VCGT 160408N-AG	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VCGT 160412N-AG	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

VC■■2205●●

- ℓ : 20.2
- s : 5.56
- ød : 12.7
- ød1 : 5.5

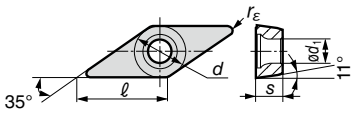
SUMIDIA (PCD) Inserts M20
Applicable External Holders C34

Recommended Application		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
		Coat																	Coated Cermet			Cermet				Carbide						
P steel		●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel				✪		●	◔	◕	✖						◔	✪	✪															
K cast iron			✪							●	◕	✖			✪							●										
N non-ferrous metal																																◕
S exotic alloy															◕	✖																
H hardened steel														●																		

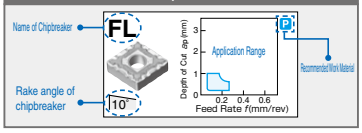
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
for Aluminium	AW  25°	VCGT 220510N-AW	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		VCGT 220516N-AW	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		VCGT 220520N-AW	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
		VCGT 220530N-AW	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AG 20° 	VCGT 220530N-AG	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

VP

35° Diamond Type
11° Relief
With Insert Hole



Information in "Shape" column



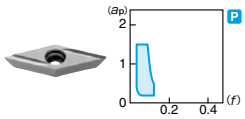
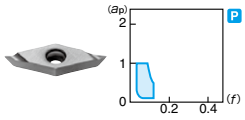
(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◐ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

VP■■0802●●

- ℓ : 8.3
- s : 2.38
- ød : 4.76
- ød1 : 2.4

Recommended Application

		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—

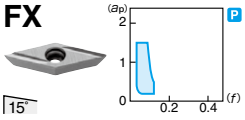
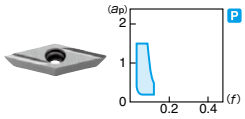
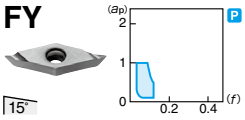
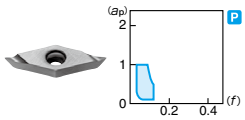
VP■■1103●●

- ℓ : 11.1
- s : 3.18
- ød : 6.35
- ød1 : 2.8

Recommended Application

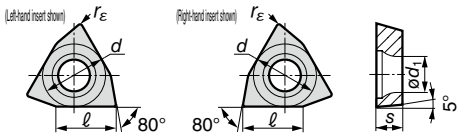
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P	steel	●	◐	✖			◔								✪	✪			◐	✖		●	◐									
M	stainless steel			✪		●	◔	◐	✖						◔	✪	✪															
K	cast iron	✪								●	◐	✖			✪							●										
N	non-ferrous metal																															◐
S	exotic alloy														◐	✖																
H	hardened steel													●																		

Applicable External Holders D15, 33

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—

▲mark : To be replaced by new item

WB Trigon Type 5° Relief With Insert Hole



* Inequilateral hexagon

Grade Selection >>> A2
Chipbreaker Selection >>> From B8
Grade Selection By Work Material >>> From A8

(Legend) Continuous Cut ● : 1st Choice ○ : 2nd Choice; Medium Cut ◕ : 1st Choice ◔ : 2nd Choice; Interrupted Cut ✖ : 1st Choice ✪ : 2nd Choice

WB■■0601●●

- ℓ : 3.2
- s : 1.59
- ød : 3.97
- ød1 : 2.2

SUMIBORON (CBN) Inserts L94
SUMIDIA (PCD) Inserts M21
Applicable Internal Holders E21, 68

Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW (20°, Left-hand insert shown)	WBGT 060102R-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●				●		▲							
		060102L-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●		▲		●		▲							
		060104R-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●				●		▲							
		060104L-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●		▲		●		▲							
	FX (15°, Left-hand insert shown)	WBGT 060102R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●															
		060102L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—		●		●															
		060104R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
		060104L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—		●		●															
	FY (15°, Left-hand insert shown)	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-Light Cutting	W (10°, Left-hand insert shown)	WBGT 060102R-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●			▲							
		060102L-W	0.2	—	—	—	—	—	—	—	—	—	—	—	—									●	●	▲		▲							
		060104R-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●			▲							
		060104L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—									●	●			▲							

WB■■0802●●

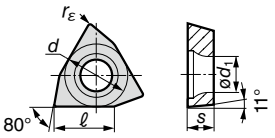
- ℓ : 4.6
- s : 2.38
- ød : 4.76
- ød1 : 2.4

SUMIBORON (CBN) Inserts L95
Applicable Internal Holders E21, 68

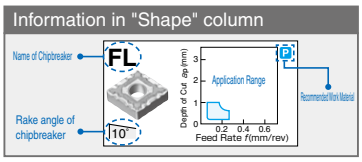
Recommended Application	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coat																	Coated Cermet			Cermet				Carbide						
P steel	●	◕	✖			◔									✪	✪		◕	✖		●	◕									
M stainless steel			✪		●	◔	◕	✖						◔	✪	✪															
K cast iron		✪							●	◕	✖			✪							●										
N non-ferrous metal																															◕
S exotic alloy														◕	✖																
H hardened steel													●																		

	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	AC Z150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW (20°, Left-hand insert shown)	WBGT 080202R-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●				●		▲							
		080202L-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●		▲		●		▲							
		080204R-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●				●		▲							
		080204L-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●		▲		●		▲							
	FX (15°, Left-hand insert shown)	WBGT 080202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●															
		080202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—				●															
		080204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
		080204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—				●															
	FY (15°, Left-hand insert shown)	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	—	—	—	—	—	—	—	—	—	—	—	—									●	●			—	—	—	—	—	—	—

WP Trigon Type 11° Relief With Insert Hole



* Inequilateral hexagon



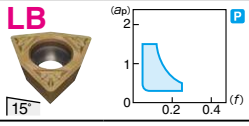
(Legend)
Continuous Cut: ● : 1st Choice, ○ : 2nd Choice
Medium Cut: ◕ : 1st Choice, ◔ : 2nd Choice
Interrupted Cut: ✖ : 1st Choice, ✪ : 2nd Choice

WP□□1102●●

- ℓ : 4.3
- s : 2.38
- ød : 6.35
- ød1 : 2.8

Applicable Internal Holders E23, 70

Recommended Application		Coat																Coated Cermet		Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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													●																		

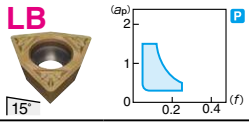
	Shape	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB 	WPMT 110204N-LB New	0.4		●	●				●	●					—					●	●			●									

WP□□1603●●

- ℓ : 6.5
- s : 3.18
- ød : 9.525
- ød1 : 4.4

Applicable Internal Holders E23, 70

Recommended Application		Coat																Coated Cermet		Cermet				Carbide						
		AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	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	Cat. No.	rε	AC810P	AC820P	AC830P	AC2000	AC610M	AC630M	AC6030M	AC6040M	AC405K	AC415K	AC420K	AC410K	AC503U	AC510U	AC520U	AC530U	ACZ150	T1500Z	T3000Z	T2000Z	T1000A	T1500A	T110A	T1200A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB 	WPMT 160308N-LB New	0.8		●	●				●	●					—					●	●			●									

▲mark : To be replaced by new item

CERAMIC

Indexable Inserts for Turning

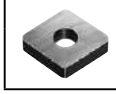
Negative | With Insert Hole

(Legend)

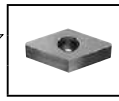
Continuous Cut	● : 1st Choice	
	○ : 2nd Choice	
Medium Cut	◕ : 1st Choice	
	◔ : 2nd Choice	
Interrupted Cut	✖ : 1st Choice	
	✪ : 2nd Choice	

Recommended Application	WX120	NB90S	NB100C
P steel			
M stainless steel			
K cast iron			
N non-ferrous metal			
S exotic alloy	◔		
H hardened steel			○

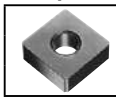
80°Diamond

Shape	ISO Cat. No.	WX120	NB90S	NB100C	Inscribed Circle	Thickness	Nose Radius	Hole Size
	CNGA 120404	—	●	●	12.70	4.76	0.4	5.16
	CNGA 120408	—	●	●			0.8	
	CNGA 120412	—	●	●			1.2	

55°Diamond

	DNGA 150404	—		●	12.70	4.76	0.4	5.16
	DNGA 150408	—		●			0.8	
	DNGA 150412	—		▲			1.2	

Square Type

	SNGA 120404	—		●	12.70	4.76	0.4	5.16
	SNGA 120408	—		●			0.8	
	SNGA 120412	—		●			1.2	

Triangular Type

	TNGA 160404	—		●	9.525	4.76	0.4	3.81
	TNGA 160408	—	●	●			0.8	
	TNGA 160412	—		▲			1.2	
	TNGA 160416	—		—			1.6	

35°Diamond

	VNGA 160404	—		●	9.525	4.76	0.4	3.81
	VNGA 160408	—		●			0.8	

Negative | Without Insert Hole

(Legend)

Continuous Cut	● : 1st Choice	
	○ : 2nd Choice	
Medium Cut	◕ : 1st Choice	
	◔ : 2nd Choice	
Interrupted Cut	✖ : 1st Choice	
	✪ : 2nd Choice	

Recommended Application	WX120	NB90S	NB100C
P steel			
M stainless steel			
K cast iron			
N non-ferrous metal			
S exotic alloy	◔		
H hardened steel			○

80°Diamond

Shape	ISO Cat. No.	WX120	NB90S	NB100C	Inscribed Circle	Thickness	Nose Radius	Hole Size
	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

	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

	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

	RNGN 120400	●		—	12.70	4.76	—	—
	RNGN 120700	●	●	—		7.94	—	
	RNGN 150700			—	15.875	7.94	—	

Square Type

	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

	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

▲mark : To be replaced by new item (Please confirm stock availability)

Positive | Without Insert Hole

(Legend)

Continuous Cut	● : 1st Choice	
	○ : 2nd Choice	
Medium Cut	◕ : 1st Choice	
	◔ : 2nd Choice	
Interrupted Cut	✖ : 1st Choice	
	✖ : 2nd Choice	

Recommended Application

		WX120	NB90S	NB100C
P	steel			
M	stainless steel			
K	cast iron			
N	non-ferrous metal			
S	exotic alloy	◔		
H	hardened steel			○

Round Type

Shape	ISO Cat. No.	WX120	NB90S	NB100C	Ceramic: Inscribeed Circle	Dimensions (mm): Thickness	Nose Radius	Hole Size
	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

	SPGN 090308		●	—	9.525	3.18	0.8	—
	SPGN 120308		●	—	12.70	3.18	0.8	

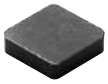
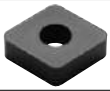
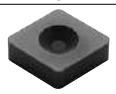
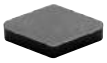
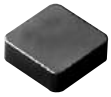
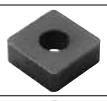
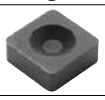
Triangular Type

	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

Refer to pages L98 to L99 for holders.

Application K cast iron

	Shape	ISO Cat. No.	(Old Cat. No.)	BNS800	Dimensions (mm) Inscribed Circle	Thickness	Nose Radius	Insert Hole	Application Holder
80°Diamond Type		CNGN 090308	—	●	9.525	3.18	0.8	No	External L98
		CNGN 090308LF	CNGN 090308F	●					
		CNGN 090312	—	●			1.2		
		CNGN 090312LF	CNGN 090312F	●					
		CNGN 120408	—	●	12.70	4.76	0.8	No	External L98
		CNGN 120412	—	●			1.2		
		CNGN 120416	—	●			1.6		
		CNGA 120408	—	●	12.70	4.76	0.8	Yes	External C7 C8 Boring Bars E35 E36
		CNGA 120412	—	●			1.2		
		CNGX 120408	—		12.70	4.76	0.8	Dimple	External L99
		CNGX 120412	—	●			1.2		
		CNGX 120416	—	●			1.6		
55°Diamond Type		DNGN 110308	—	●	9.525	3.18	0.8	No	External L99
		DNGN 110308LF	DNGN 110308F	●					
		DNGN 110312	—	●			1.2		
		DNGN 110312LF	DNGN 110312F	●					
Round Type		RNGN 090300	—	●	9.525	3.18	—	No	External L99
		RNGN 090300LF	RNGN 090300F	●					
		RNGN 120300	—	●	12.70	3.18	—	No	External L99
		RNGN 120300LF	RNGN 120300F	●					
		RNGN 120400	—	●		4.76			
Square Type		SNGN 090308	—	●	9.525	3.18	0.8	No	External L98
		SNGN 090308LF	SNGN 090308F	●					
		SNEN 090308W	—	●					
		SNEN 090308LFW	SNEN 090308FW	●					
		SNGN 090312	—	●			1.2		
		SNGN 090312LF	SNGN 090312F	●					
		SNGN 120308	—	●	12.70	3.18	0.8	No	External L98
		SNGN 120308LF	SNGN 120308F	●					
		SNGN 120312	—	●			1.2		
		SNGN 120312LF	SNGN 120312F	●					
		SNGN 120408	—	●	12.70	4.76	0.8	No	External L98
		SNGN 120412	—	●			1.2		
		SNGN 120416	—	●			1.6		
		SNGN 120420	—	●			2.0		
		SNGA 120408	—	●	12.70	4.76	0.8	Yes	External C13 to C18 Boring Bars E75 E76
		SNGA 120412	—	●			1.2		
		SNGX 120408	—		12.70	4.76	0.8	Dimple	External L99
		SNGX 120412	—	●			1.2		
		SNGX 120416	—	●			1.6		
Triangular Type		TNGN 110308	—	●	6.35	3.18	0.8	No	External L98
		TNGN 110308LF	TNGN 110308F	●					
		TNGN 110312	—	●			1.2		
		TNGN 110312LF	TNGN 110312F	●					
		TNGN 160408	—	●	9.525	4.76	0.8	No	External L98
		TNGN 160412	—	●			1.2		
		TNGN 160416	—	●			1.6		
		TNGN 160420	—	●			2.0		
		TNGA 160408	—	●	9.525	4.76	0.8	Yes	External C19 to C25 External D15 D18 Boring Bars E33 E35
		TNGA 160412	—	●			1.2		

LF : Sharp edge type W : Wiper insert LFW : Wiper insert with sharp edge