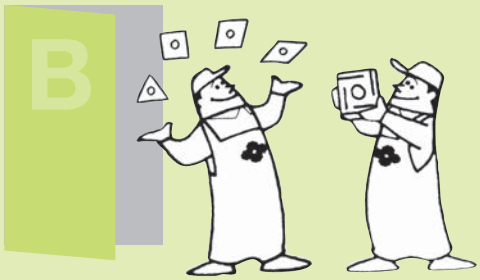
Indexable Inserts for Turning

Negative / Positive / Ceramic B1 to B132

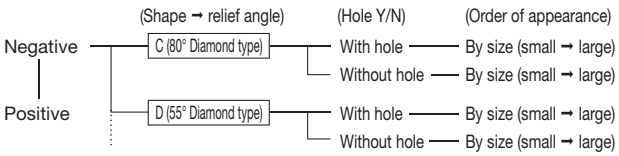
B



Format of This Chapter

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

●Structure Diagram



Symbols in Insert Diagrams

*Symbols conform to ISO13399.

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

Handed Inserts

*Typically, photos show right-handed inserts.

Insert Grades

(1) For IGETALLOY, the grades listed include Coated Carbide (CVD/PVD), Cermet, Cemented Carbide, and Ceramic.
(2) SUMIBORON and SUMIDIA are described only in SUMIBORON section (➞ L34 onward), and SUMIDIA section (➞ M10 onward).

Stock Markings and Symbols

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

Indexable Insert Identification Code

Example

C (1) **N** (2) **M** (3) **G** (4)

- (1) Insert Shape — Refer to Table 1
- (2) Relief Angle — Refer to Table 2
- (3) Tolerance — Refer to Table 3
- (4) Insert Hole — Refer to Table 4

Table 1: (1) Insert Shape

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

Table 2: (2) Relief Angle

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

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

Table 3: (3) Tolerance (mm)

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

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

Table 4: (4) Insert Hole

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

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

● Corner Height Tolerance (mm)

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

● Inscribed Circle Tolerance (mm)

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

Indexable Insert Identification Code

12 04 08 N - GE

(5) Cutting Edge Length — Refer to Table 5

(6) Thickness — Refer to Table 6

(7) Corner Radius — Refer to Table 7

(8) Feed Direction — Refer to Table 8

(9) Chipbreaker — Refer to Table 9

Picture of insert shown as example

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

Note: Cutting edge length indicated is measured without corner radii. (mm)

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

Table 6: (6) Thickness

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

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

Table 7: (7) Corner Radius

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

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

Table 8: (8) Feed Direction

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

Table 9: (9) Chipbreaker

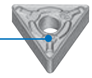
Symbol	Applications	3D type (Bumpy type)	Standard	Handed type
F□	Fine Finishing to Finishing	FA, FL, FE, FF, FB, FC, FK, FP		FT, FX, FZ FYS,FY, FW
S□ L□	Light Cutting	SE, SEW, SI, SC, SF, SS, SU, SX LU, LUW, LB		SD SDW ST
G□ U□	General Machining	GE, GU, GUW UG, UP US, UX	GZ UZ	UM
M□	Roughing	MP, MU, MX, ME	MC	MM HM
H□	Heavy Cutting	HG, HP, HF	HU HW	

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

Chipbreaker Selection

Negative type Finishing to Medium Cutting

Legend



Fine Cutting

FB type — P
Provides excellent chip control and cutting edge sharpness needed for low feed turning

Cross section: 0.80, 27° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

FA type — P
Curved faced chipbreaker is effective for fine finishing

Cross section: 1.0, 20° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D T V W

FL type — P
Optimal chipbreaker for chip control on rolled steel

Cross section: 1.0, 10° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

FE type — P
Excellent chip evacuation for low to high feed turning

Cross section: 1.40, 0.70, 20° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

Finishing

LU type — P
Effective chip control for variable depths of cut and profiling

Cross section: 1.5, 1.0, 10° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

SU type — P M S
Effective at high feed and small depth of cut

Cross section: 1.3, 13° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

SE type — P
Finishing chipbreaker reduces tool wear on rake face. Effective even for high-efficiency turning

Cross section: 0.1, 1.5, 17°, 5° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

EF type — M S
Exotic alloy finishing chipbreaker with excellent chip evacuation

Cross section: 1.2, 20° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

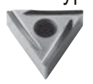
LUW type — P M
High-efficiency finishing chipbreaker with wiper edge

Wiper Insert
Cross section: 1.5, 1.0, 10° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C W

SEW type — P
New high-feed finishing chipbreaker with wiper edge

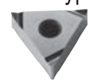
Wiper Insert
Cross section: 0.13, 1.9, 17°, 5° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D W

FX type — P M K S
Parallel chipbreaker with superior cutting edge sharpness



Cross section: 1.5, 14° — TNGG1604○○ type. Relief angle 0°. Shapes in stock: D T V

FY type — P M K N S
Wide chipbreaker with cutting edge sharpness



Cross section: 2.5, 15° — TNGG1604○○ type. Relief angle 0°. Shapes in stock: D T V

FT type — P
Arc-shaped ground type finishing chipbreaker

Cross section: 0.15, 1.35 — TNGG1103○○ type. Relief angle 0°. Shapes in stock: T

Light to Medium Cutting

SJ type — P
Standard chipbreaker with excellent cutting edge strength

Cross section: 0.18, 1.2 — SNMG1204○○ type. Relief angle 0°. Shapes in stock: S

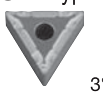
ST type — P
Arc-shaped ground type chipbreaker for light cutting

Cross section: 0.15, 1.65 — TNGG1603○○ type. Relief angle 0°. Shapes in stock: S T

GX type — P M N
Double positive chipbreaker providing superior cutting edge sharpness

Cross section: 1.5, 15° — SNGG1204○○ type. Relief angle 0°. Shapes in stock: S T

SX type — P
Enables profiling and step pull turning



Cross section: 1.35, 0.2, 15°, 3° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

EX type — M S
Standard chipbreaker for exotic alloys

Cross section: 2.0, 16° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

UP type — M N S
Double positive is ideal for stainless steel turning

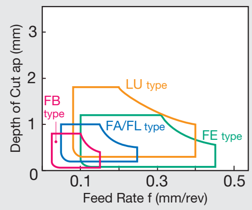
Cross section: 2.1, 10° — CNMG1204○○ type. Relief angle 0°. Shapes in stock: C D S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker | BREAK MASTER (CBN/PCD) | For Chamfering

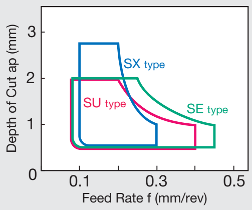
Applicable Work Materials: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

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

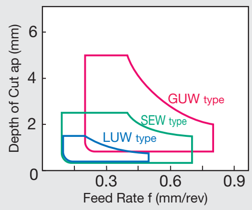
Fine Finishing to Finishing



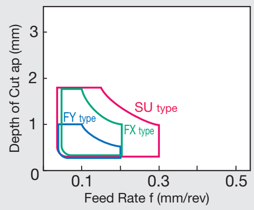
Finishing to Light Cutting



Wiper Insert



High-precision Cutting (Ground)

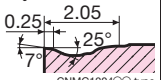


Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number (size, class, etc.). For details, refer to "Stock Items" in Chapter B.

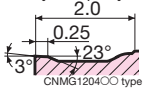
Chipbreaker Selection

Negative type Medium Cutting to Roughing

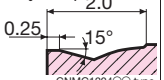
Medium Cutting

GU type — P M K N S H
General purpose chipbreaker with low cutting force and good wear resistance


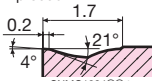
0° — C D R S T V W

GE type — P M K N S H
General purpose chipbreaker with high rake face wear resistance even in high-efficiency turning


0° — C D R S T V W

UX type — P M K N S H
General purpose chipbreaker with strong cutting edge and high reliability


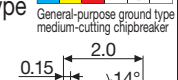
0° — C D R S T V W

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


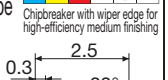
0° — C D R S T V W

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


0° — C D R S T V W

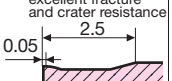
UM type — P M K N S H
General-purpose ground type medium-cutting chipbreaker


0° — C D R S T V W

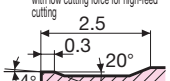
GUW type — P M K N S H
Chipbreaker with wiper edge for high-efficiency medium finishing
Wiper Insert


0° — C D R S T V W

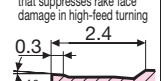
Medium to Roughing

EM type — P M K N S H
Chipbreaker with excellent fracture and crater resistance


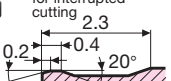
0° — C D R S T V W

MU type — P M K N S H
Economical double-sided chipbreaker with low cutting force for high-feed cutting


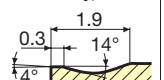
0° — C D R S T V W

ME type — P M K N S H
Roughing chipbreaker that suppresses rake face damage in high-feed turning


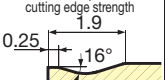
0° — C D R S T V W

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


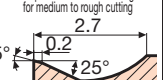
0° — C D R S T V W

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


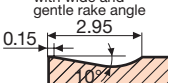
0° — C D R S T V W

GZ type — P M K N S H
Extremely reliable standard chipbreaker with cutting edge strength


0° — C D R S T V W

HM type — P M K N S H
Wide, M class, handed chipbreaker with low cutting force for medium to rough cutting


0° — C D R S T V W

MM type — P M K N S H
Ground chipbreaker with wide and gentle rake angle


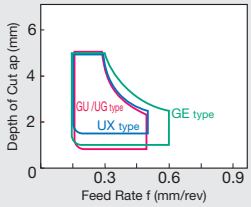
0° — C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BREAK MASTER (CBN/PCD) | For Chamfering

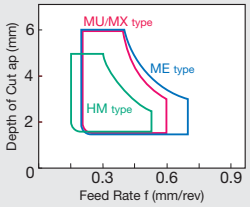
Applicable Work Materials: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

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

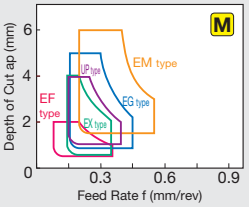
Medium Cutting



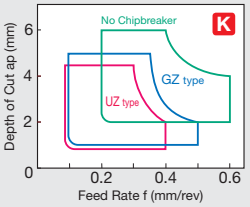
Roughing



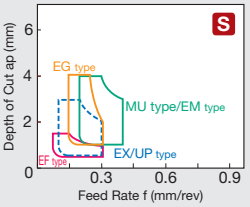
Stainless Steel



Cast Iron



Exotic Alloy



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

Chipbreaker Selection

Negative type Roughing

Rough to Heavy Cutting

HG type — P M K N S H
Excellent chip control for heavy cutting
0.4 22°
CNMM1606○○ type
0° C D R S T V W

MP type — P M K N S H
Single-sided chipbreaker with low cutting force for roughing
0.3 22°
CNMM1606○○ type
0° C D R S T V W

HP type — P M K N S H
Strongest cutting edge for heavy cutting
0.3 to 0.6 22°
CNMM1606○○ type
0° C D R S T V W

HU type — P M K N S H
Heavy cutting chipbreaker with strong cutting edge for excellent chip control
3.2 0.6 0.25 -15° 16°
SNMM2507○○ type
0° C D R S T V W

HW type — P M K N S H
Two-step chipbreaker with excellent chip evacuation for heavy cutting
6.3 0.3 0.75 17° -15°
SNMM3109○○ type
0° C D R S T V W

HF type — P M K N S H
Heavy cutting chipbreaker with strong cutting edge for excellent chip evacuation in high-feed turning
4.5 0.2 0.4 20° -15°
SNMM1906○○ type
0° C D R S T V W

Negative type Aluminum Alloy Cutting

Finishing

AX type — P M K N S H
Parallel Al chipbreaker with cutting edge sharpness
2.5 30°
CNGG1204○○ type
0° C D R S T V W

Negative type Hardened Steel Cutting

Finishing

GH type — P M K N S H
Hardened steel chipbreaker reduces cutting force and provides good chip evacuation
3.5 3°
CNGG1204○○ type
0° C D R S T V W

Negative type Chamfering

Chamfering

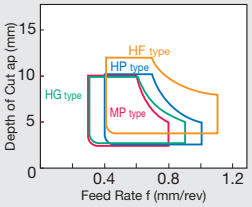
C type — P M K N S H
Ground type general-purpose chipbreaker
2.15 0.15 14°
SNGG1204○○ type
0° C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BREAK MASTER (CBN/PCD) | For Chamfering

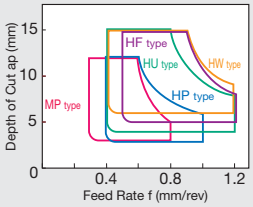
Applicable Work Materials: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

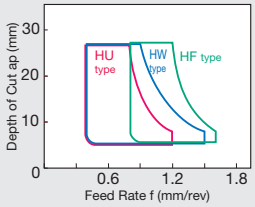
Rough to Heavy Cutting (Inscribed Circle ø15.875 to 19.05mm)



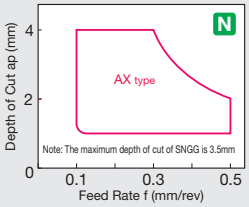
Rough to Heavy Cutting (Inscribed Circle ø25.4mm)



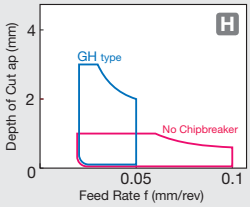
Rough to Heavy Cutting (Inscribed Circle ø31mm)



Aluminum Alloy



Hardened Steel

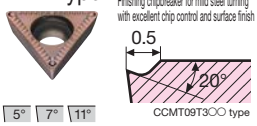


Indicated chipbreaker application ranges and shapes are representative values only. Actual values may change according to the actual catalogue number (size, class, etc.). For details, refer to "Stock Items" in Chapter B.

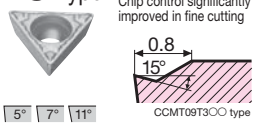
Chipbreaker Selection

Positive type M Class (Finishing to Medium Cutting)

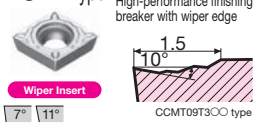
Finishing to Light Cutting

FB type — P M K N S H
Finishing chipbreaker for mild steel turning with excellent chip control and surface finish


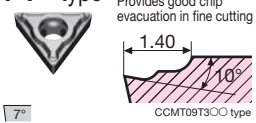
5° 7° 11° — CCMT09T3○○ type
C D R S T V W

LU type — P M K N S H
Chip control significantly improved in fine cutting


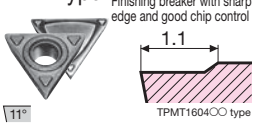
5° 7° 11° — CCMT09T3○○ type
C D R S T V W

LUW type — P M K N S H
High-performance finishing breaker with wiper edge


Wiper Insert
7° 11° — CCMT09T3○○ type
C R S T V W

FP type — P M K N S H
Provides good chip evacuation in fine cutting


7° — CCMT09T3○○ type
C D R S T V W

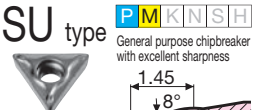
FK type — P M K N S H
Finishing breaker with sharp edge and good chip control


11° — TPMT1604○○ type
C D R S T V W

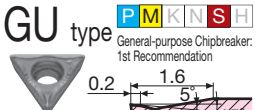
Light to Medium Cutting

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

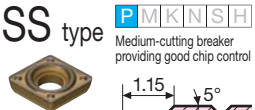

5° 7° 11° — CCMT09T3○○ type
C D R S T V W

SU type — P M K N S H
General purpose chipbreaker with excellent sharpness


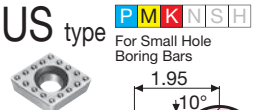
5° 7° 11° — TPMT1103○○ type
C D R S T V W

GU type — P M K N S H
General-purpose Chipbreaker: 1st Recommendation


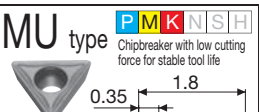
5° 7° 11° — CCMT09T3○○ type
C D R S T V W

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


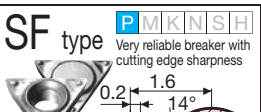
11° — CPMH0903○○ type
C D R S T V W

US type — P M K N S H
For Small Hole Boring Bars


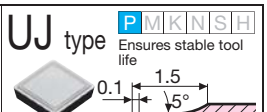
11° — CPMH0903○○ type
C D R S T V W

MU type — P M K N S H
Chipbreaker with low cutting force for stable tool life


7° 11° — TPMT1604○○ type
C D R S T V W

SF type — P M K N S H
Very reliable breaker with cutting edge sharpness


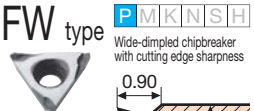
11° — TPMT1604○○ type
C D R S T V W

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


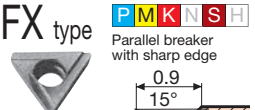
11° — TPMR1603○○ type
C D R S T V W

Positive type G Class (Ground type)

Finishing to Light Cutting

FW type — P M K N S H
Wide-dimpled chipbreaker with cutting edge sharpness


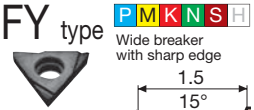
5° 11° — TPMT1102○○ type
C D R S T V W

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


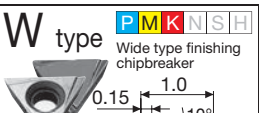
5° 7° 11° — TPGT1103○○ type
C D R S T V W

FYS type — P M K N S H
Fine cutting breaker with sharp edge

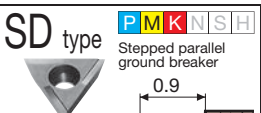

5° 7° — CCGT04X1○○ type
C D R S T V W

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


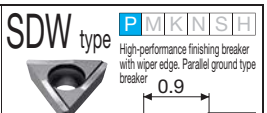
5° 7° 11° — TPGT1103○○ type
C D R S T V W

W type — P M K N S H
Wide type finishing chipbreaker


5° 11° — TPGR1103○○ type
C D R S T V W

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


7° 11° — TPGT1103○○ type
C D R S T V W

SDW type — P M K N S H
High-performance finishing breaker with wiper edge. Parallel ground type breaker


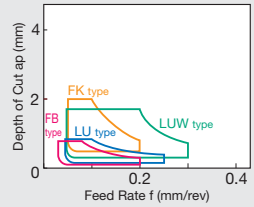
Wiper Insert
11° — TPGX1103○○ type
C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BREAK MASTER (CBN/PCD) | For Chamfering

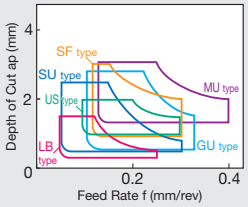
Applicable Work Materials: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

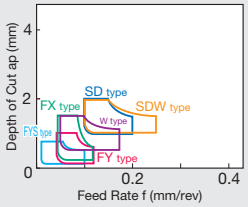
M Class Finishing to Light Cutting



M Class Light to Medium Cutting



G Class Ground type



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

Chipbreaker Selection

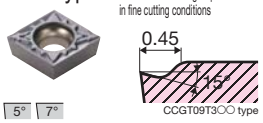
Positive type G Class

Finishing to Light Cutting

FF type (New)

P M K N S H

Realises outstanding chip evacuation in fine cutting conditions



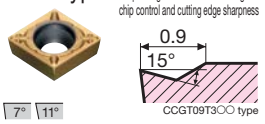
5° 7°

C D R S T V W

FC type

P M K N S H

Peripheral ground 3D breaker with good chip control and cutting edge sharpness



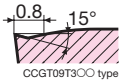
7° 11°

C D R S T V W

SI type

P M K N S H

Sharp-edged chipbreaker for a wide range of applications from finishing to light cutting



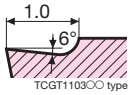
7° 11°

C D R S T V W

SC type

P M K N S H

Two-step breaker for light cutting



7°

C D R S T V W

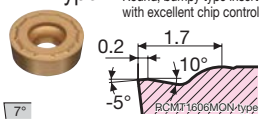
Positive type Round type Inserts

Round type

RX type

P M K N S H

Round, bumpy type insert with excellent chip control



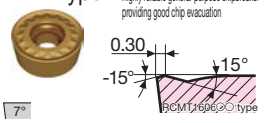
7°

C D R S T V W

RH type

P M K N S H

Highly reliable general-purpose chipbreaker providing good chip evacuation



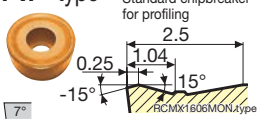
7°

C D R S T V W

RP type

P M K N S H

Standard chipbreaker for profiling



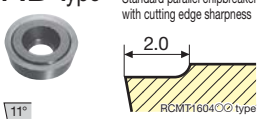
7°

C D R S T V W

RD type

P M K N S H

Standard parallel chipbreaker with cutting edge sharpness



11°

C D R S T V W

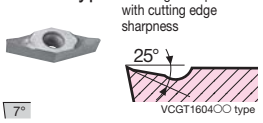
Positive type Aluminum Alloy Cutting

Finishing

AW type

P M K N S H

Finishing Al chipbreaker with cutting edge sharpness



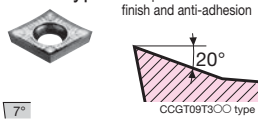
7°

C D R S T V W

AG type

P M K N S H

Al chipbreaker for mirror finish and anti-adhesion



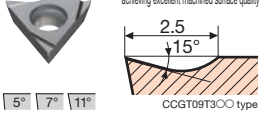
7°

C D R S T V W

AY type

P M K N S H

High-quality ground aluminum breaker achieving excellent machined surface quality



5° 7° 11°

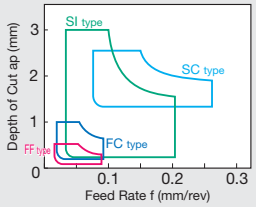
C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BREAK MASTER (CBN/PCD) | For Chamfering

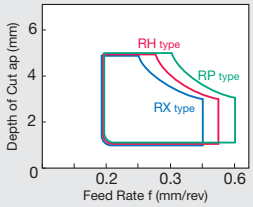
Applicable Work Materials: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

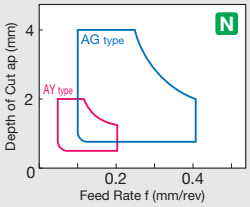
G Class Chipbreaker



Round type Inserts (Inscribed Circle up to 12.7mm)



Aluminum Alloy



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

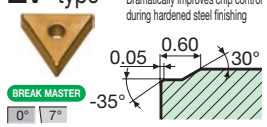
Chipbreaker Selection

SUMIBORON Insert CBN

Finishing to Light Cutting

LV type — P M K N S H

Dramatically improves chip control during hardened steel finishing

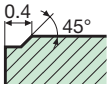


BREAK MASTER 0° 7°

C D R S T V W

FV type — P M K N S H

Dramatically improves chip control during hardened steel finishing



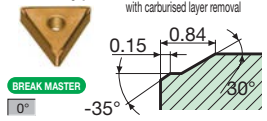
BREAK MASTER 0° 7°

C D R S T V W

Carburised Layer Removal

SV type — P M K N S H

Significantly improved chip control with carburised layer removal



BREAK MASTER 0°

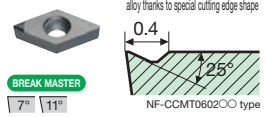
C D R S T V W

SUMIDIA Insert PCD

Finishing to Light Cutting

LD type — P M K N S H

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



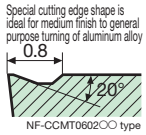
BREAK MASTER 7° 11°

NF-CCMT0602○○ type

C D R S T V W

GD type — P M K N S H

Special cutting edge shape is ideal for medium finish to general purpose turning of aluminum alloy



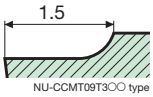
BREAK MASTER 7° 11°

NF-CCMT0602○○ type

C D R S T V W

DM type — P M K N S H

Perfect chipbreaker for high-speed finishing of aluminum alloy



BREAK MASTER 7° 11°

NU-CCMT09T3○○ type

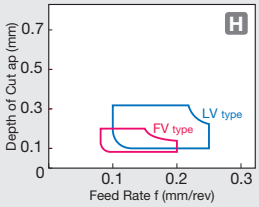
C D R S T V W

Bumpy Chipbreaker | Standard Chipbreaker | Handed Chipbreaker
BREAK MASTER (CBN/PCD) | For Chamfering

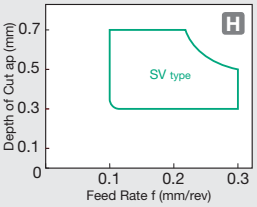
Applicable Work Materials: P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel

Chipbreaker Application Range

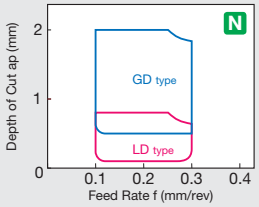
SUMIBORON (Hardened Steel) (Inscribed Circle up to 12.7mm)



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



SUMIDIA (Aluminum Alloy)



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

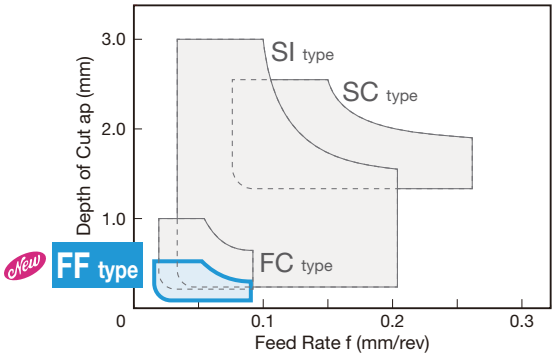
FF type

P Steel M Stainless Steel K Cast Iron S Exotic Alloy

New

- Breaks chips in fine cutting conditions where chip control is difficult
- Extensive lineup for external turning and internal boring for various work materials

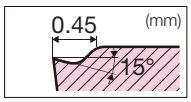
■ Application Range



Features

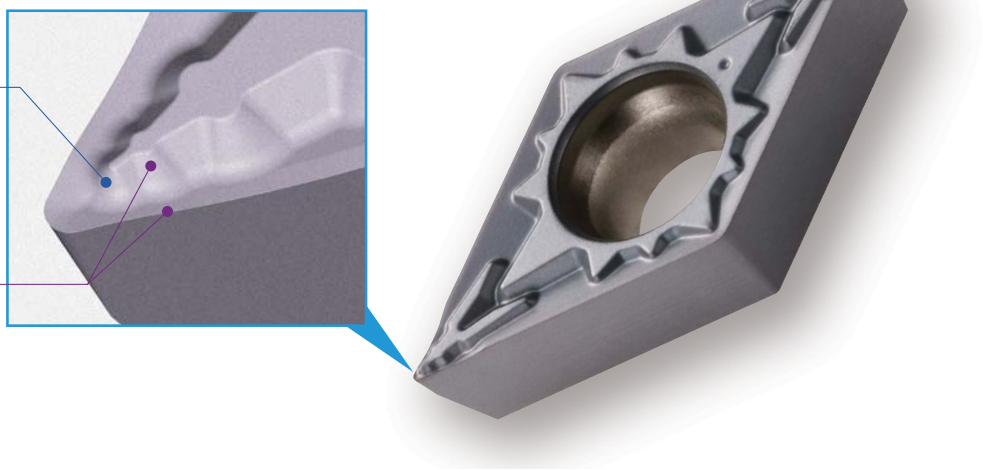
Outstanding chip control in fine cutting conditions

Breaks chips with a protrusion placed near the cutting edge



Cross Section of Chipbreaker

Wavy cutting edge and high-ridge design on the side for chip control in turning applications with fluctuating depths of cut

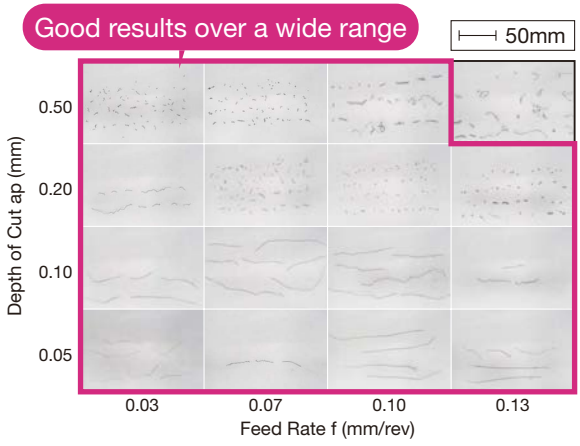


Cutting Performance

Chip Control Breaks chips in fine cutting conditions

Work Material: SCM415 ø30mm External Turning, Insert: DCGT11T302MN-FF (AC1030U)
Cutting Conditions: vc = 100m/min f = 0.03-0.13mm/rev ap = 0.05-0.50mm Wet

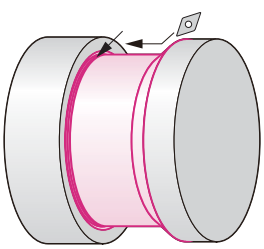
Good results over a wide range

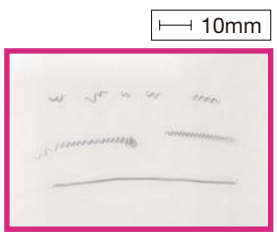


Application Examples

Excellent chip control in turning of tapers and necking operations

Work Material: SCM415 Automotive Parts ø12mm External Turning/Tapering/Necking
Insert: DCGT11T302MN-FF (AC1030U)
Cutting Conditions: vc = 100m/min f = 0.05-0.07mm/rev ap = 0.2-0.3mm Wet





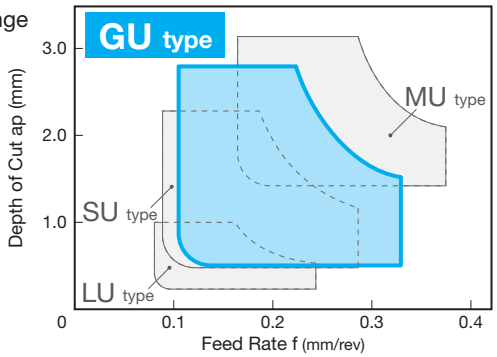
FF type Chipbreaker
(AC1030U)

GU type

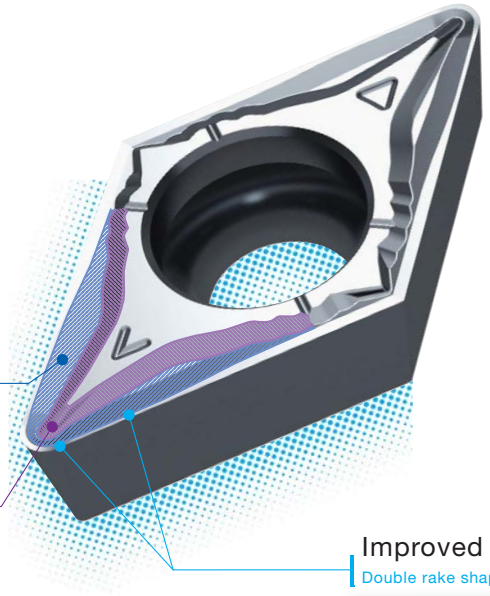
P Steel M Stainless Steel S Exotic Alloy

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

■ Application Range

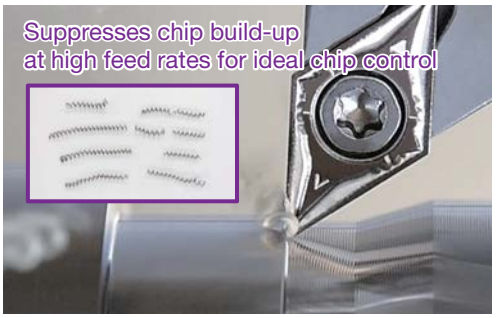


Features

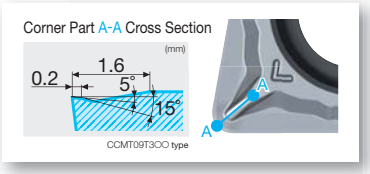


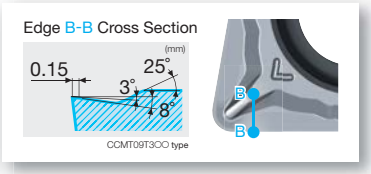
Excellent Chip Control Performance
Wide chip pocket supports various cutting conditions

Low Cutting Force Suppresses Chatter
Protrusion design controls chip flow



Improved Fracture Resistance
Double rake shape with excellent cutting edge sharpness and hardness

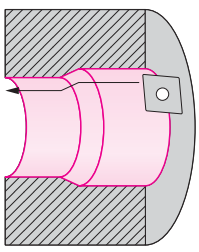


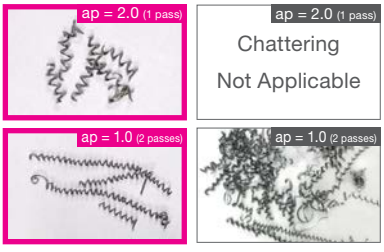


Application Examples

Improves turning efficiency by reducing chip entanglement

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



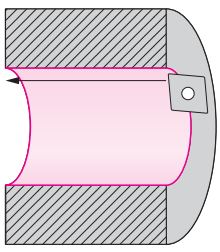


GU type Chipbreaker (AC8025P)

Conventional Tool

Strong design realizes 1.5x longer tool life

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

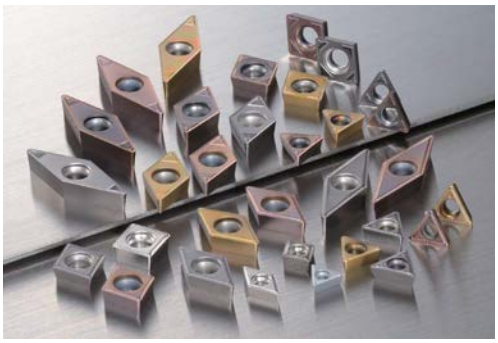


GU type Chipbreaker (AC8025P)

Competitor's Product

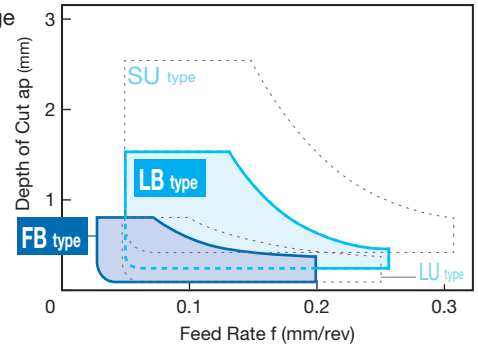
FB/LB type

P Steel

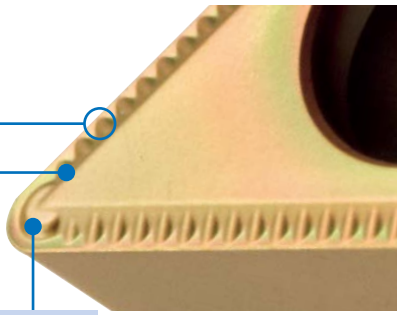


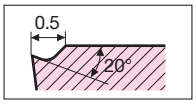
- FB type for finishing and LB type for light cutting have been added to the chipbreaker series for low carbon and general steel machining in addition to the existing LU type for finishing and SU type for light cutting.
- The FB and LB type chipbreakers improve chip control in finishing of low carbon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

■ Application Range



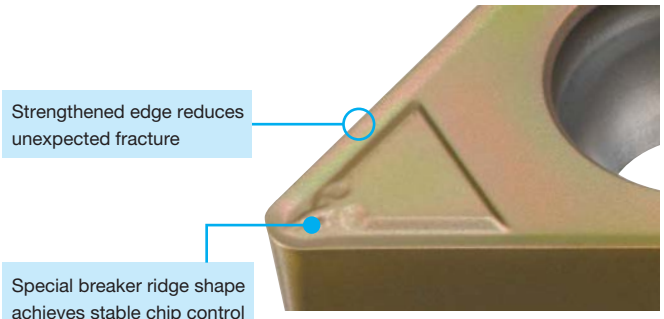
FB type Chipbreaker for Finishing

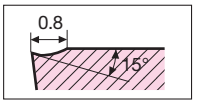




Cross Section of Chipbreaker

LB type Chipbreaker for Light turning





Cross Section of Chipbreaker

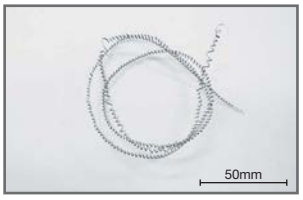
Cutting Performance

Chip Control

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

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

FB type Chipbreaker (T1500A)

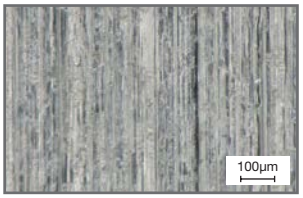


Competitor's Product

Comparison of Surface Roughness of Finished Surfaces

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

FB type Chipbreaker (T1500A)



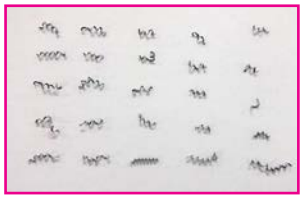
Competitor's Product

Cutting Performance

Chip Control (1)

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

Achieves stable chip control in light cutting

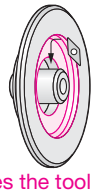


LB type Chipbreaker (T1500A)

Competitor's Product

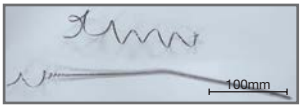
Chip Control (2)

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



LB type Chipbreaker (T1500A)

Competitor's Product



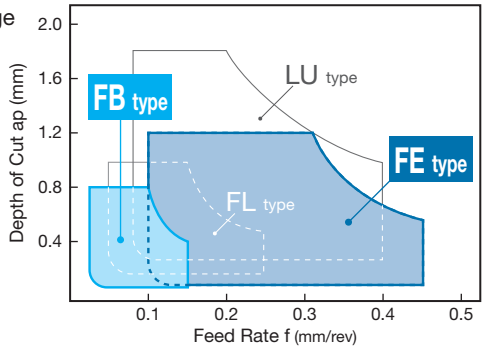
Doubles the tool life by improving chip control and reducing blemishes on machined surfaces

FB/FE type

P Steel

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

■ Application Range



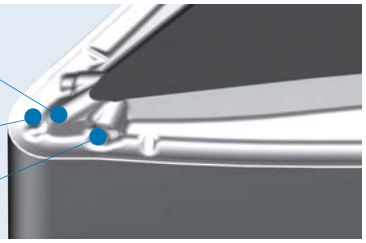
FE type Chipbreaker for Finishing

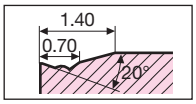
General-purpose to high feed turning

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

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

Sub chipbreaker for chip control during profiling





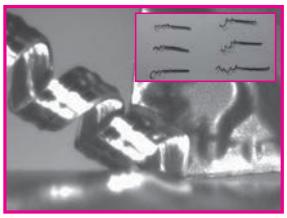
Cross Section of Chipbreaker

Cutting Performance

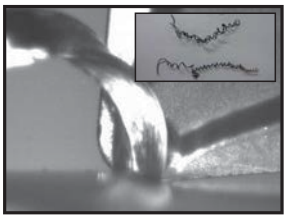
Chip Control

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

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



FE type Chipbreaker (AC8025P)



Conventional Tool

Application Examples

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

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

FE type Chipbreaker (AC8025P)

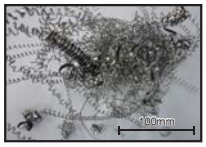
Competitor's Product

Application Examples

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

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

FE type Chipbreaker (AC8025P)



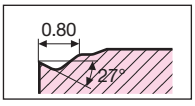
Conventional Tool

FB type Chipbreaker for Low Feed Finishing

Low feed turning

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

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

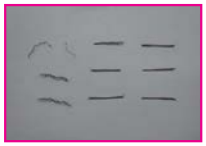


Cross Section of Chipbreaker

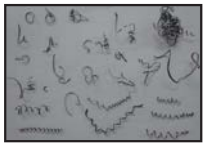
Application Examples

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

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



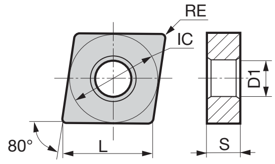
FB type Chipbreaker (T3000Z)

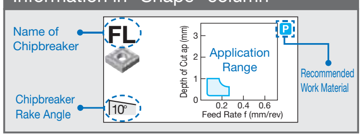


Competitor's Product

80° Diamond type Negative Inserts

CN 80° Diamond type Negative With Hole





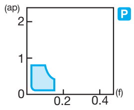
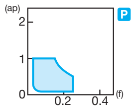
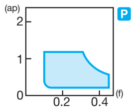
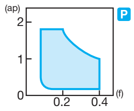
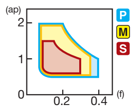
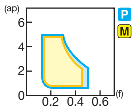
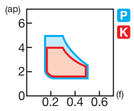
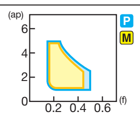
●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◐: General Machining 1st Recommendation ◎: General Machining 2nd Recommendation
■: Interrupted Cutting 1st Recommendation □: Interrupted Cutting 2nd Recommendation

CN■■0903●●

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

Applicable External Holders ☞ C11 Applicable Boring Bars ☞ E23 to E25

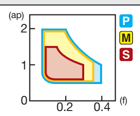
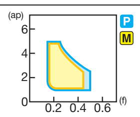
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Grade type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

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

CN■■09T3●●

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

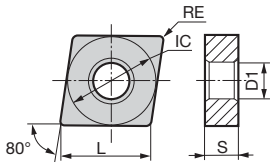
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Grade type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

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

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

80° Diamond type Negative Inserts

CN 80° Diamond type / Negative / With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

CN■■0904●●

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

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

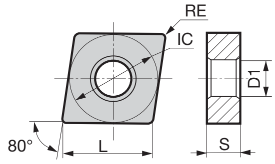
Applicable External Holders C11

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC5003U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°	P	CNMG 090404N-FB	0.4										●																●	●	▲		●								
			090408N-FB	0.8										●																●	●	▲		●								
	FE 20°	P	CNMG 090404N-FE	0.4	●	●	●	●	●		●		●	●																●	●	▲		●								
			090408N-FE	0.8	●	●	●	●	●		●		●	●																●	●	▲		●								
Finishing	**SU** 13°	P M S	CNMG 090404N-SU	0.4	●	●	●		●	●	●																			●			●	●								
			090408N-SU	0.8	●	●	●		●	●	●																			●			●	●								
			090412N-SU	1.2	●	●	●	●	●		●																			●			●	●								
	SEW 5° → B131 Wiper	P	CNMG 090404N-SEW	0.4	●	●	●	●	●		●																															
			090408N-SEW	0.8	●	●	●	●	●		●																															
	EF 20°	M S	CNMG 090404N-EF	0.4								●	●	●									●	●	●																	
			090408N-EF	0.8								●	●	●									●	●	●																	
Medium Cutting	**GU** 7°	P M	CNMG 090404N-GU	0.4			●		●		●																			●			●	●								
			090408N-GU	0.8			●		●		●																			●			●	●								
			090412N-GU	1.2	●	●	●	●	●		●						●	●												●			●	●								
	UG 4°	P M	CNMG 090404N-UG	0.4			●			●																															
			090408N-UG	0.8			●	●		●	●																															
	EG 0°	M	CNMG 090408N-EG	0.8								●	●	●									●	●	●																	
			090412N-EG	1.2								●	●	●									●	●	●																	
Medium to Roughing	**GZ** 0°	K	CNMG 090408N-GZ	0.8													●	●	●	▲	▲																					
			090412N-GZ	1.2													●	●	●	▲	▲																					

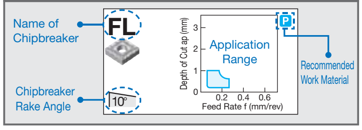
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

80° Diamond type Negative Inserts

CN 80°Diamond type Negative With Hole



Information in "Shape" column



CN■■1204●●

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

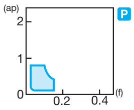
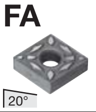
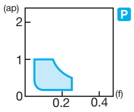
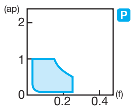
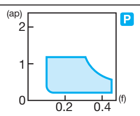
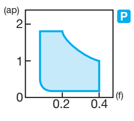
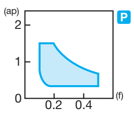
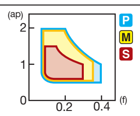
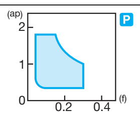
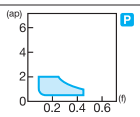
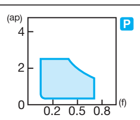
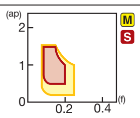
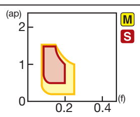
SUMIBORON (CBN) Inserts ☞L34 on
SUMIDIA (PCD) Inserts ☞M10
Ceramic Inserts ☞B128
Applicable External Holders ☞C10 to C12
Applicable Boring Bars ☞E15, E23 to E25

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

Recommended Application

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

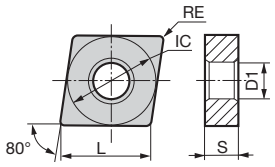
Coated Carbide (CVD: AC8015P–AC830P; PVD: AC6020M–AC6040M; CVD: AC610M–AC415K; PVD: AC503U–ACZ150) / Coated Cermet (PVD: T1500Z–T3000Z) / Cermet (T1000A, T1500A) / Cemented Carbide (ST10P–H1)

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB  27°	 P	CNMG 120402N-FB	0.2	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲	●	●	—	—	—	—	—	—	
			120404N-FB	0.4	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲	●	●	—	—	—	—	—	—	
			120408N-FB	0.8	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲	●	●	—	—	—	—	—	—	
	FA  20°	 P	CNMG 120402N-FA	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲	●	●	—	—	—	—	—	—	
			120404N-FA	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲	●	●	—	—	—	—	—	—	
			120408N-FA	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	●	●	▲	●	●	—	—	—	—	—	—	
	FL  10°	 P	CNMG 120404N-FL	0.4			●			●						●						—	●	●	●		●	—		—	●	●	▲	●	●							
			120408N-FL	0.8			●			●						●						—	●	●	●		●	—		—	●	●	▲	●	●							
	FE  20°	 P	CNMG 120402N-FE	0.2	●	●	●	●	●		●		●	●								—						—		—	●	●	▲	●	●							
			120404N-FE	0.4	●	●	●	●	●		●		●	●								—						—		—	●	●	▲	●	●							
			120408N-FE	0.8	●	●	●	●	●		●		●	●								—						—		—	●	●	▲	●	●							
			120412N-FE	1.2	●	●	●	●	●		●		●	●								—						—		—	●	●	▲	●	●							
Finishing	LU  10°	 P	CNMG 120402N-LU	0.2									●			●						—						—		—	●	●	▲	●	●							
			120404N-LU	0.4	●	●	●	●	●	●	●		●			●						—						—		—	●	●	▲	●	●							
			120408N-LU	0.8	●	●	●	●	●	●	●		●			●						—						—		—	●	●	▲	●	●							
			120412N-LU	1.2	●	●	●	●	●	●	●		●			●						—						—		—	●	●	▲		●							
			120416N-LU	1.6																		—						—		—	—	—	—	—	—							—
	LUW  10° →B131 Wiper	 P	CNMG 120404N-LUW	0.4	●	●	●		●	●			●			●						—						—		—	●	●	▲		●							
			120408N-LUW	0.8	●	●	●		●	●			●			●						—						—		—	●	●	▲		●							
			120412N-LUW	1.2	●	●	●		●	●			●			●						—						—		—	●	●	▲		●							
	SU  13°	 P M S	CNMG 120402N-SU	0.2								●	●	●		●						—	●	●	●		●	—	●	—	●	●	▲	●	●							
			120404N-SU	0.4	●	●	●	●	●	●	●	●	●	●		●						—	●	●	●	●	●	—	●	—	●	●	▲	●	●							
			120408N-SU	0.8	●	●	●	●	●	●	●	●	●	●		●						—	●	●	●	●	●	—	●	—	●	●	▲	●	●							
			120412N-SU	1.2	●	●	●	●	●	●	●	●	●	●		●						—	●	●	●	●	●	—	●	—	●	●	▲	●	●							
	SU  13°	 P	CNGG 120402N-SU	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●				●	●	▲	●	●							
			120404N-SU	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●				●	●	▲	●	●							
			120408N-SU	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		●	●	●	●				●	●		●	●							
	SE  5°	 P	CNMG 120404N-SE	0.4	●	●	●	●	●	●	●											—						—		—	●	●		●	●							
			120408N-SE	0.8	●	●	●	●	●	●	●											—						—		—	●	●		●	●							
			120412N-SE	1.2	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			120416N-SE	1.6																		—						—		—	—	—	—	—	—							—
	SEW  5° →B131 Wiper	 P	CNMG 120404N-SEW	0.4	●	●	●		●	●												—						—		—	●	●			●							
			120408N-SEW	0.8	●	●	●		●	●												—						—		—	●	●			●							
			120412N-SEW	1.2	●	●	●		●	●												—						—		—	—	—	—	—	—							—
	EF  20°	 M S	CNMG 120404N-EF	0.4	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
			120408N-EF	0.8	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
			120412N-EF	1.2	●	●	●	●				●	●	●								—	●	●	●		●	—		—	—	—	—	—	—					●	●	—
	EF  20°	 M S	CNGG 120402N-EF	0.2								—	—	—		●						—		●	●	●	●				—	—	—	—	—					●	●	—
			120404N-EF	0.4								—	—	—		●						—		●	●	●	●				—	—	—	—	—					●	●	—
			120408N-EF	0.8								—	—	—		●						—		●	●	●	●				—	—	—	—	—					●	●	—

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

80° Diamond type Negative Inserts

CN 80° Diamond type **Negative** **With Hole**



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

CN■■1204●●

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

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

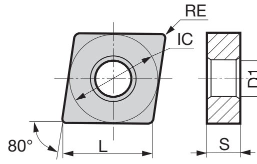
SUMIBORON (CBN) Inserts L34 on
SUMIDIA (PCD) Inserts M10
Ceramic Inserts B128
Applicable External Holders C10 to C12
Applicable Boring Bars E15, E23 to E25

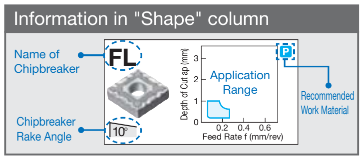
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	CVD AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	ST10P	Cemented Carbide ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**SX** 3°	(ap) 2 1 0 0.2 0.4 (f) P	CNMG 120404N-SX	0.4	●	●	●	●	●	●	●																			●	●	▲		●								
			120408N-SX	0.8	●	●	●	●	●	●	●																			●	●	▲		●								
			120412N-SX	1.2	●	●	●	●	●	●	●																																
	EX 16°	(ap) 3 2 1 0 0.2 0.4 (f) M S	CNMG 120404N-EX	0.4								●	●	●	▲	●							●	●	●	●	●		●														
			120408N-EX	0.8								●	●	●	▲	●							●	●	●	●	●		●														
			120412N-EX	1.2								●	●	●	▲	●							●	●	●	●	●		●														
			120416N-EX	1.6																																						
	UP 10°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) M S	CNMG 120404N-UP	0.4						●	●	●	●	●		●							●	●	●	●	●		●										●				
			120408N-UP	0.8						●	●	●	●	●	▲	●							●	●	●	●	●		●										●				
			120412N-UP	1.2						●	●	●	●	●		●							●	●	●	●	●		●										●				
Medium Cutting	**GU** 7°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	CNMG 120404N-GU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●	●					●	●	●		●		●			●	●		●								
			120408N-GU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●	●					●	●	●		●		●			●	●		●								
			120412N-GU	1.2	●	●	●	●	●	●	●	●	●	●	▲	●	●					●	●	●		●		●														
			120416N-GU	1.6	●	●	●	●		●	●						●	●																								
	GE 3°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	CNMG 120404N-GE	0.4	●	●	●	●	●	●	●																														
			120408N-GE	0.8	●	●	●	●	●	●	●																														
			120412N-GE	1.2	●	●	●	●	●	●	●																														
			120416N-GE	1.6	●	●	●	●	●	●	●																														
	GUW 0° → B131 Wiper	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	CNMG 120408N-GUW	0.8	●	●	●		●	●																														
			120412N-GUW	1.2	●	●	●		●	●																														
	UX 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P K	CNMG 120404N-UX	0.4	●	●	●	●	●	●	●																														
			120408N-UX	0.8	●	●	●	●	●	●	●																														
			120412N-UX	1.2	●	●	●	●	●	●	●																														
			120416N-UX	1.6	●	●	●	●	●	●	●																														
	UG 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	CNMG 120404N-UG	0.4			●	●		●	●																										●				
			120408N-UG	0.8			●	●		●	●																										●				
			120412N-UG	1.2			●	●		●	●																														
			120416N-UG	1.6			●	●		●	●																														
	EG 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) M	CNMG 120404N-EG	0.4	●	●	●	●				●	●	●									●	●	●															●	●	
			120408N-EG	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
			120412N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
			CNMA 120404	0.4													●	●	●	▲	▲																					
			120408	0.8													●	●	●	▲	▲		●	●	●	●																
			120412	1.2													●	●	●	▲	▲																					
			120416	1.6													●	●	●	▲	▲																					
			CNGA 120402	0.2																		●																				
			120404	0.4																		●																				
			120408	0.8																		●																				

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

80° Diamond type Negative Inserts

CN 80°Diamond type Negative With Hole





CN■■1204●●

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

SUMIBORON (CBN) Inserts ☞ L34 on
SUMIDIA (PCD) Inserts ☞ M10
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C10 to C12
Applicable Boring Bars ☞ E15, E23 to E25

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

Recommended Application

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

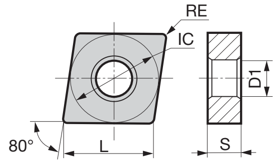
Coated Carbide (CVD: AC8015P–AC830P; PVD: AC6020M; CVD: AC6030M–AC415K; PVD: AC503U–AC530U) · Coated Cermet (PVD: T1500Z–T1500A) · Cermet · Cemented Carbide

Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	MU (4°)	P M S	CNMG 120408N-MU	0.8	●	●	●	●	●	●	●		●			●						—	●	●	●	●	●	—	●	—	—	—	—	—	—							—
			120412N-MU	1.2	●	●	●	●	●	●	●		●			●						—	●	●	●	●	●	—	●	—	—	—	—	—	—							—
			120416N-MU	1.6	●	●	●	●	●	●	●											—	●	●	●		●	—	●	—	—	—	—	—	—							—
	EM (0°)	M S	CNMG 120408N-EM	0.8	●	●	●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
			120412N-EM	1.2	●	●	●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
			120416N-EM	1.6	●	●	●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
	ME (4°)	P	CNMG 120408N-ME	0.8	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			120412N-ME	1.2	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			120416N-ME	1.6	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
	MX (-15°)	P	CNMG 120408N-MX	0.8		●	●	●		●	●											—						—		—	—	—	—	—	—							—
			120412N-MX	1.2		●	●	●		●	●											—						—		—	—	—	—	—	—							—
			120416N-MX	1.6		●	●			●												—						—		—	—	—	—	—	—							—
	UZ (4°)	K	CNMG 120404N-UZ	0.4			●			●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲	—	●	●	●	●	●	—		—	—	—	—	—	—			●	●			—
			120412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲	—	●	●	●	●	●	—		—	—	—	—	—	—				●			—
			120416N-UZ	1.6			●			●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
	GZ (0°)	K	CNMG 120404N-GZ	0.4						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120408N-GZ	0.8						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120412N-GZ	1.2						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120416N-GZ	1.6						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Roughing	MP (0°)	P	CNMM 120408N-MP	0.8	●	●	●	●	●	●	●	●	●	●		●						—	●	●	●	●		—		—	—	—	—	—	—							—
			120412N-MP	1.2	●	●	●	●	●	●	●	●	●	●		●						—	●	●	●	●		—		—	—	—	—	—	—							—
			120416N-MP	1.6	●	●	●	●	●	●	●	●	●			●						—	●	●	●	●		—		—	—	—	—	—	—							—
	HG (0°)	P	CNMM 120408N-HG	0.8	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			120412N-HG	1.2	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			120416N-HG	1.6			●			●												—						—		—	—	—	—	—	—							—
	HP (0°)	P	CNMM 120408N-HP	0.8			●	●		●	●					●						—						—		—	—	—	—	—	—							—
			120412N-HP	1.2			●	●		●	●					●						—						—		—	—	—	—	—	—							—
			120416N-HP	1.6			●	●		●	●					●						—						—		—	—	—	—	—	—							—

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

80° Diamond type Negative Inserts

CN 80°Diamond type Negative With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

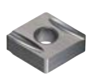
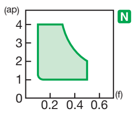
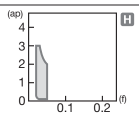
●: Continuous Cutting 1st Recommendation
○: Continuous Cutting 2nd Recommendation
◕: General Machining 1st Recommendation
◔: General Machining 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation
✣: Interrupted Cutting 2nd Recommendation

CN■■1204●●

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

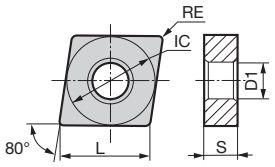
SUMIBORON (CBN) Inserts ☞ L34 on
SUMIDIA (PCD) Inserts ☞ M10
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C10 to C12
Applicable Boring Bars ☞ E15, E23 to E25

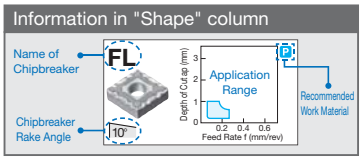
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
					CVD									PVD	CVD							PVD									PVD											
					AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	AX  30°		CNGG 120402R-AX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120402L-AX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120404R-AX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120404L-AX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120408R-AX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120408L-AX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
Light Cutting of Hardened Steel	GH  3°		CNGG 120402N-GH	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120404N-GH	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			120408N-GH	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

80° Diamond type Negative Inserts

CN 80° Diamond type / Negative / With Hole





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

CN■■1606●●

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

Applicable External Holders ☞ C10 to C12

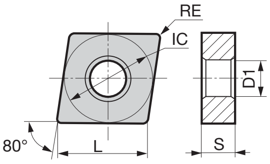
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	PVD: AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	Cemented Carbide: T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	EX		CNMG 160612N-EX	1.2																			●	●	●	●	●															
	UP		CNMG 160608N-UP	0.8																																						
			160612N-UP	1.2																																						
Medium Cutting	GU		CNMG 160608N-GU	0.8	●	●	●	●	●	●	●		●	●			●	●																								
			160612N-GU	1.2	●	●	●	●	●	●	●		●	●			●	●																								
			160616N-GU	1.6	●	●	●	●	●	●	●		●	●			●	●																								
	GE		CNMG 160608N-GE	0.8	●	●	●	●	●	●	●																														
			160612N-GE	1.2	●	●	●	●	●	●	●																														
			160616N-GE	1.6	●	●	●	●	●	●	●																														
	GUW	→ B131 Wiper	CNMG 160612N-GUW	1.2	●	●	●	●	●	●	●																														
	UX		CNMG 160608N-UX	0.8	●	●	●	●	●	●	●																														
			160612N-UX	1.2	●	●	●	●	●	●	●																														
			160616N-UX	1.6	●	●	●	●	●	●	●																														
	UG		CNMG 160608N-UG	0.8				●			●																														
			160612N-UG	1.2				●			●																														
			160616N-UG	1.6				●	●		●	●																														
	EG		CNMG 160608N-EG	0.8	●	●	●	●				●	●	●									●	●	●	●	●															
			160612N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
			160616N-EG	1.6	●	●	●	●				●	●	●									●	●	●	●	●															
			CNMA 160608	0.8																	▲																					
			160612	1.2																	▲																					
			160616	1.6																	▲																					
Medium to Roughing	MU		CNMG 160608N-MU	0.8	●	●	●	●	●	●	●												●	●	●	●	●															
			160612N-MU	1.2	●	●	●	●	●	●	●		●			●							●	●	●	●	●															
			160616N-MU	1.6	●	●	●	●	●	●	●		●			●							●	●	●	●	●															
	EM		CNMG 160608N-EM	0.8	●	●	●	●				●	●	●									●	●	●																	
			160612N-EM	1.2	●	●	●	●				●	●	●									●	●	●																	
			160616N-EM	1.6	●	●	●	●				●	●	●									●	●	●																	
	ME		CNMG 160608N-ME	0.8	●	●	●	●	●	●	●							●	●																						
			160612N-ME	1.2	●	●	●	●	●	●	●							●	●																						
			160616N-ME	1.6	●	●	●	●	●	●	●							●	●																						

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

80° Diamond type Negative Inserts

CN 80° Diamond type Negative With Hole



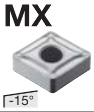
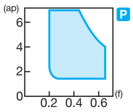
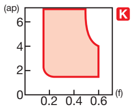
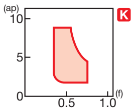
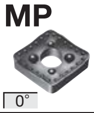
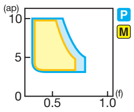
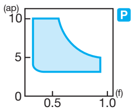
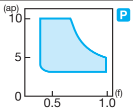
Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◐: General Machining 1st Recommendation ◔: General Machining 2nd Recommendation
■: Interrupted Cutting 1st Recommendation □: Interrupted Cutting 2nd Recommendation

CN□□1606●●

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

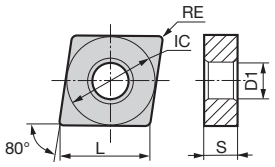
Applicable External Holders ☞ C10 to C12

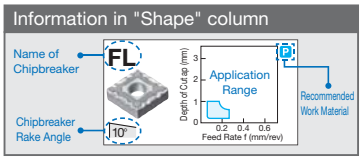
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Recommended Application	P Steel				●	◔	◐	■	○	◔	□		◔			◔									□		□	◐			◐	■	□	●	◐							
Recommended Application	M Stainless Steel							□			□	●	◐	■	○	◔									□		□	◐	□													
Recommended Application	K Cast Iron						□			□							●	◐	■	○	◔			□		□		◐						●								
Recommended Application	N Non-Ferrous Metal																																									◐
Recommended Application	S Exotic Alloy																						●	◐	■	◔	□	□														
Recommended Application	H Hardened Steel																					●																				
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
					CVD									PVD	CVD							PVD									PVD											
Medium to Roughing	**MX**  -15°	 P	CNMG 160608N-MX	0.8		●	●			●												—						—		—	—	—	—	—	—							—
Medium to Roughing			160612N-MX	1.2		●	●	●		●	●											—						—		—	—	—	—	—	—							—
Medium to Roughing			160616N-MX	1.6		●	●	●		●	●											—						—		—	—	—	—	—	—							—
Medium to Roughing	**UZ**  4°	 K	CNMG 160608N-UZ	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—
Medium to Roughing			160612N-UZ	1.2			●	●		●	●						●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium to Roughing			160616N-UZ	1.6			●	●		●	●						●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium to Roughing	**GZ**  0°	 K	CNMG 160608N-GZ	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium to Roughing			160612N-GZ	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium to Roughing			160616N-GZ	1.6													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Roughing	**MP**  0°	 P M	CNMM 160608N-MP	0.8			●	●		●	●		●									—	●	●	●	●		—		—	—	—	—	—	—							—
Roughing			160612N-MP	1.2	●	●	●	●	●	●	●		●									—	●	●	●	●		—		—	—	—	—	—	—							—
Roughing			160616N-MP	1.6	●	●	●	●	●	●	●		●									—	●	●	●	●		—		—	—	—	—	—	—							—
Heavy Cutting	**HG**  0°	 P	CNMM 160612N-HG	1.2	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Heavy Cutting			160616N-HG	1.6	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Heavy Cutting	**HP**  0°	 P	CNMM 160608N-HP	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—
Heavy Cutting			160612N-HP	1.2			●	●		●	●											—						—		—	—	—	—	—	—							—
Heavy Cutting			160616N-HP	1.6			●	●		●	●											—						—		—	—	—	—	—	—							—

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

80° Diamond type Negative Inserts

CN 80° Diamond type / Negative / With Hole





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

CN■■1906●●

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

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

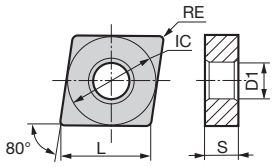
Applicable External Holders ☞ C10 to C12 | Applicable Boring Bars ☞ E24, E25

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

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

80° Diamond type Negative Inserts

CN 80° Diamond type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

CN■■1906●●

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

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

Applicable External Holders C10 to C12 | Applicable Boring Bars E24, E25

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

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

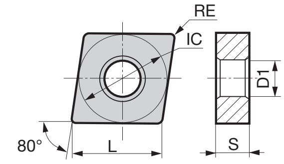
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

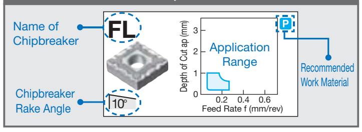
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD)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

80° Diamond type Negative Inserts

Insert
B
Negative
Positive
C
D
R
S
T
V
W
Ceramic
Solid CBN

CN 80°Diamond type Negative With Hole



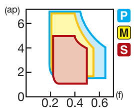
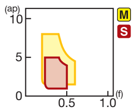
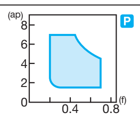
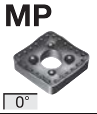
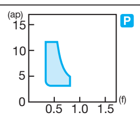
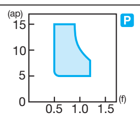


● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◐ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✧ : Interrupted Cutting 2nd Recommendation

CN■■2509●●

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

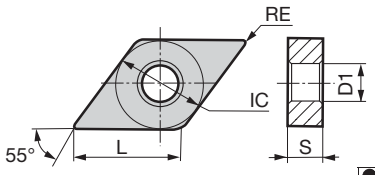
Applicable External Holders ☞C10

Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S
				Coated Carbide																		
				CVD									PVD	CVD							PVD	
Recommended Application		P Steel		●	◔	◐	✖	○	◔	✧		◔			◔							
		M Stainless Steel					✧			✧	●	◐	✖	○	◔							
		K Cast Iron				✧			✧							●	◐	✖	○	◔		
		N Non-Ferrous Metal																				
		S Exotic Alloy																				●
		H Hardened Steel																			●	
Medium to Roughing: MU  4°	 P M S	CNMG 250924N-MU	2.4	●	●	●	●	●	●	●											—	●
Medium to Roughing: EM  0°	 M S	CNMG 250924N-EM	2.4	●	●	●	●					●	●								—	●
Medium to Roughing: ME  4°	 P	CNMG 250924N-ME	2.4	●	●	●	●	●	●	●						●	●				—	
Roughing: MP  0°	 P	CNMM 250924N-MP	2.4			●			●												—	
Heavy Cutting: HF  -15°	 P	CNMM 250924N-HF	2.4			●	●		●	●											—	
		250932N-HF	3.2			●	●		●	●											—	

Cat. No.	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide							Coated Cermet			Cermet		Cemented Carbide						
	PVD							PVD											
P Steel		✧		✧	◐			◐	✖	✧	●	◐							
M Stainless Steel		✧		✧	◐	✧													
K Cast Iron	✧		✧		◐						●								
N Non-Ferrous Metal																			◐
S Exotic Alloy	◐	✖	◔	✧	✧														
H Hardened Steel																			
CNMG 250924N-MU	●	●	●	●	—		—	—	—	—	—	—							—
CNMG 250924N-EM	●	●			—		—	—	—	—	—	—							—
CNMG 250924N-ME					—		—	—	—	—	—	—							—
CNMM 250924N-MP					—		—	—	—	—	—	—							—
CNMM 250924N-HF					—		—	—	—	—	—	—							—
250932N-HF					—		—	—	—	—	—	—							—

55° Diamond type Negative Inserts

DN 55° Diamond type **Negative With Hole**



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

DN■■1104●●

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

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

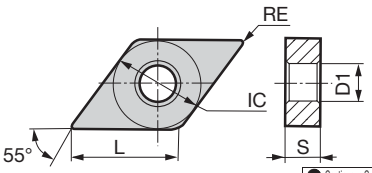
SUMIBORON (CBN) Inserts ☞ L54
Applicable External Holders ☞ C16
Applicable Boring Bars ☞ E32, E33

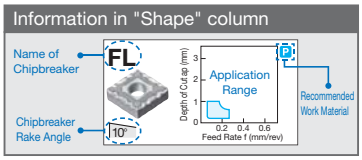
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°	P	DNMG 110404N-FB	0.4										●																●	●	▲		●								
			110408N-FB	0.8										●																●	●	▲		●								
	FE 20°	P	DNMG 110404N-FE	0.4	●	●	●	●	●		●		●	●															●	●	▲		●								
			110408N-FE	0.8	●	●	●	●	●		●		●	●															●	●	▲		●								
			110412N-FE	1.2	●	●	●	●	●		●		●	●															●	●	▲		●								
Finishing	**LU** 10°	P	DNMG 110404N-LU	0.4	●	●	●			●			●			●																		●								
			110408N-LU	0.8	●	●	●			●			●			●																		●								
	SU 13°	P M S	DNMG 110404N-SU	0.4	●	●	●	●	●	●	●	●	●	●																●												
			110408N-SU	0.8	●	●	●	●	●	●	●	●	●	●																●												
			110412N-SU	1.2	●	●	●	●	●	●	●	●	●	●																●												
	SE 5°	P	DNMG 110408N-SE	0.8	●	●	●	●	●	●	●																															
	SEW 5° → B131 Wiper	P	DNMX 110404N-SEW	0.4	●	●	●	●	●	●	●																															
			110408N-SEW	0.8	●	●	●	●	●	●	●																															
			110412N-SEW	1.2	●	●	●	●	●	●	●																															
	EF 20°	M S	DNMG 110404N-EF	0.4	●	●	●	●				●	●	●									●	●	●		●																
			110408N-EF	0.8	●	●	●	●				●	●	●									●	●	●		●																
			110412N-EF	1.2	●	●	●	●				●	●	●									●	●	●		●																
Medium Cutting	**GU** 7°	P M	DNMG 110404N-GU	0.4	●	●	●	●		●	●	●	●	●			●	●	●																●								
			110408N-GU	0.8	●	●	●	●		●	●	●	●	●			●	●	●																●								
			110412N-GU	1.2	●	●	●	●	●	●	●	●	●	●				●	●													●											
	GE 3°	P	DNMG 110408N-GE	0.8	●	●	●	●	●	●	●																															
			110412N-GE	1.2	●	●	●	●	●	●	●																															
	UX 0°	P K	DNMG 110408N-UX	0.8	●	●	●				●																															
	UG 4°	P M	DNMG 110404N-UG	0.4			●	●		●	●																															
			110408N-UG	0.8			●	●		●	●																															
	EG 0°	M	DNMG 110408N-EG	0.8	●	●	●	●				●	●	●									●	●	●		●																
			110412N-EG	1.2	●	●	●	●				●	●	●									●	●	●		●																

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

55° Diamond type Negative Inserts

DN 55° Diamond type **Negative With Hole**





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

DN■■1104●●

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

SUMIBORON (CBN) Inserts L54
Applicable External Holders C16 Applicable Boring Bars E32, E33

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	UM	P	DNGG 110404R-UM	0.4																													●	●				●			
			110404L-UM	0.4																													●	●				●			
			110408R-UM	0.8																													●	●				●			
			110408L-UM	0.8																													●	●				●			
			DNGA 110404	0.4																																					
			110408	0.8																																					
Medium to Roughing	GZ	K	DNMG 110408N-GZ	0.8													●	●	●	▲	▲																				
			110412N-GZ	1.2													●	●	●	▲	▲																				

DN■■1504●●

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

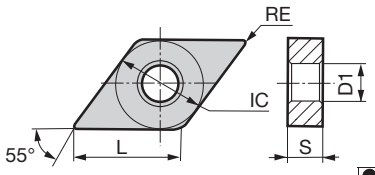
SUMIBORON (CBN) Inserts L54 on SUMIDIA (PCD) Inserts M12
SUMIDIA BINDERLESS Inserts M28 Ceramic Inserts B128
Applicable External Holders C14 to C16 Applicable Boring Bars E15, E31 to E33

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB	P	DNMG 150404N-FB	0.4										●																●	●	▲	●	●							
			150408N-FB	0.8										●																●	●	▲	●	●							
	FA	P	DNMG 150404N-FA	0.4																										●	●	▲	●	●							
			150408N-FA	0.8																										●	●	▲	●	●							
	FL	P	DNMG 150404N-FL	0.4			●			●						●														●	●	▲	●	●							
			150408N-FL	0.8			●			●						●														●	●	▲	●	●							
			150412N-FL	1.2			●									●														●	●	▲	●	●							
	FE	P	DNMG 150402N-FE	0.2	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			150404N-FE	0.4	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			150408N-FE	0.8	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			150412N-FE	1.2	●	●	●	●	●		●		●	●																●	●	▲	●	●							
Finishing	LU	P	DNMG 150402N-LU	0.2	●	●	●		●	●			●			●														●	●	▲	●	●							
			150404N-LU	0.4	●	●	●	●	●	●	●		●			●														●	●	▲	●	●							
			150408N-LU	0.8	●	●	●	●	●	●	●		●			●														●	●	▲	●	●							
			150412N-LU	1.2	●	●	●	●	●	●	●		●			●														●	●	▲		●							

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

55° Diamond type Negative Inserts

DN 55° Diamond type **Negative With Hole**



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

DN■■1504●●

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

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

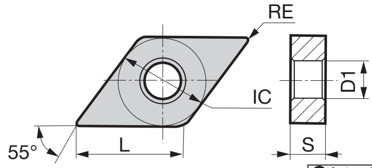
SUMIBORON (CBN) Inserts L54 on
SUMIDIA (PCD) Inserts M12
SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128
Applicable External Holders C14 to C16
Applicable Boring Bars E15, E31 to E33

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**SU** 13°	P M S	DNMG 150402N-SU	0.2	●	●	●		●	●		●	●	●		●							●	●		●		●			●	●	▲	●	●							
			150404N-SU	0.4	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●		●			●	●	▲	●	●							
			150408N-SU	0.8	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●		●			●	●	▲	●	●							
			150412N-SU	1.2	●	●	●		●	●		●	●	●		●															●	●	▲	●	●							
	SU 13°	P	DNGG 150402N-SU	0.2																			●	●	●	●					●	●	▲	●	●							
			150404N-SU	0.4																			●	●	●	●					●	●	▲	●	●							
			150408N-SU	0.8																			●	●	●	●					●	●	▲	●	●							
	SE 5°	P	DNMG 150404N-SE	0.4	●	●	●	●	●	●	●																				●	●		●	●							
			150408N-SE	0.8	●	●	●	●	●	●	●																				●	●		●	●							
			150412N-SE	1.2	●	●	●	●	●	●	●																				●	●		●	●							
			150416N-SE	1.6																																							
	SEW → B131 Wiper 5°	P	DNMX 150404N-SEW	0.4	●	●	●		●	●																					●	●			●							
			150408N-SEW	0.8	●	●	●		●	●																					●	●			●							
			150412N-SEW	1.2	●	●	●		●	●																																
	EF 20°	M S	DNMG 150404N-EF	0.4	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●		
			150408N-EF	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●		
			150412N-EF	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●		
	EF 20°	M S	DNGG 150404N-EF	0.4												●							●	●	●	●													●	●		
			150408N-EF	0.8												●							●	●	●	●													●	●		
	FY 15°	P	DNGG 150402R-FY	0.2																								●														
			150402L-FY	0.2																								●														
			150404R-FY	0.4																								●														
			150404L-FY	0.4																								●														
			150408R-FY	0.8																								●														
			150408L-FY	0.8																								●														
	FX 14°	P	DNGG 150402R-FX	0.2																								●														
			150402L-FX	0.2																								●														
			150404R-FX	0.4																								●														
			150404L-FX	0.4																								●														
			150408R-FX	0.8																								●														
			150408L-FX	0.8																								●														
Light to Medium Cutting	**SX** 3°	P	DNMG 150404N-SX	0.4	●	●	●	●	●	●	●																				●	●	▲		●							
			150408N-SX	0.8	●	●	●	●	●	●	●																				●	●	▲		●							
			150412N-SX	1.2	●	●	●	●	●	●	●																																
	EX 16°	M S	DNMG 150404N-EX	0.4								●	●	●	▲	●							●	●	●	●	●		●														
			150408N-EX	0.8								●	●	●	▲	●							●	●	●	●	●		●														
			150412N-EX	1.2								●	●	●	▲	●							●	●	●	●	●		●														
	UP 10°	M S	DNMG 150404N-UP	0.4						●	●	●	●	●		●							●	●	●	●	●		●										●				
			150408N-UP	0.8						●	●	●	●	●		●							●	●	●	●	●		●										●				
			150412N-UP	1.2						●	●	●	●	●		●							●	●	●	●	●		●										●				
			150416N-UP	1.6																																						
Medium Cutting	**GU** 7°	P M	DNMG 150404N-GU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●	●						●	●	●		●		●			●	●			●							
			150408N-GU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●	●						●	●	●		●		●			●	●			●							
			150412N-GU	1.2	●	●	●	●	●	●	●	●	●	●	▲	●	●						●	●	●		●		●			●	●			●							
			150416N-GU	1.6			●			●							●																										
	GE 3°	P	DNMG 150404N-GE	0.4	●	●	●	●	●	●	●																															
			150408N-GE	0.8	●	●	●	●	●	●	●																															
			150412N-GE	1.2	●	●	●	●	●	●	●																															
			150416N-GE	1.6			●																																			

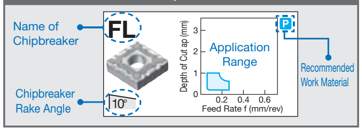
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

55° Diamond type Negative Inserts

DN — 55°Diamond type Negative With Hole



Information in "Shape" column



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

DN■■1504●●

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

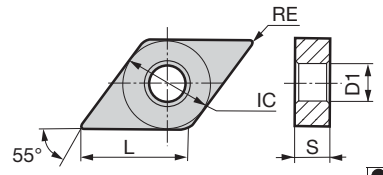
SUMIBORON (CBN) Inserts ☞ L54 on
SUMIDIA (PCD) Inserts ☞ M12
SUMIDIA BINDERLESS Inserts ☞ M28
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C14 to C16
Applicable Boring Bars ☞ E15, E31 to E33

Cutting	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
					CVD									PVD	CVD							PVD									PVD											
Recommended Application	P Steel				●	◌	◐	✖	○	◌	✧		◌			◌									✧		✧	◐			◐	✖	✧	●	◐							
Recommended Application	M Stainless Steel							✧			✧	●	◐	✖	○	◌									✧		✧	◐	✧													
Recommended Application	K Cast Iron						✧			✧							●	◐	✖	○	◌			✧		✧		◐						●								
Recommended Application	N Non-Ferrous Metal																																									◐
Recommended Application	S Exotic Alloy																						●	◐	✖	◌	✧	✧														
Recommended Application	H Hardened Steel																					●																				
Medium Cutting	UX (0°)	P, K	DNMG 150404N-UX	0.4	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Medium Cutting	UX		150408N-UX	0.8	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Medium Cutting	UX		150410N-UX	1.0																		—						—		—	—	—	—	—	—							—
Medium Cutting	UX		150412N-UX	1.2	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Medium Cutting	UG (4°)	P, M	DNMG 150404N-UG	0.4				●			●											—						—		—												
Medium Cutting	UG		150408N-UG	0.8			●	●		●	●											—						—		—												
Medium Cutting	UG		150412N-UG	1.2			●	●		●	●											—						—		—	—	—	—	—	—							
Medium Cutting	UG		150416N-UG	1.6																		—						—		—	—	—	—	—	—							—
Medium Cutting	EG (0°)	M	DNMG 150404N-EG	0.4	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
Medium Cutting	EG		150408N-EG	0.8	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
Medium Cutting	EG		150412N-EG	1.2	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
Medium Cutting	UM (0°)	P, M, K	DNMG 150404R-UM	0.4																		—						—		—	●				●							
Medium Cutting	UM		150404L-UM	0.4																		—						—		—	●				●							
Medium Cutting	UM		150408R-UM	0.8																		—						—		—	●				●							
Medium Cutting	UM		150408L-UM	0.8																		—						—		—	●				●							
Medium Cutting	UM (0°)	P	DNGG 150404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●			●			
Medium Cutting	UM		150404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●			●			
Medium Cutting	UM		150408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●			●			
Medium Cutting	UM		150408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●				●			
Medium Cutting	UM		150412R-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
Medium Cutting	UM		150412L-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
Medium Cutting			DNMA 150404	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium Cutting			150408	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium Cutting			150412	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Medium Cutting			DNGA 150402	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●																				
Medium Cutting			150404	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●		●	●	●								●					●			
Medium Cutting			150408	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●												●					●			
Medium Cutting			150412	1.2	—	—	—	—	—	—	—	—	—	—	—	—																										
Medium to Roughing	MU (4°)	P, M, S	DNMG 150408N-MU	0.8	●	●	●	●	●	●	●		●		▲	●						—	●	●	●	●	●	—	●	—	—	—	—	—	—							—
Medium to Roughing	MU		150412N-MU	1.2	●	●	●	●	●	●	●		●			●						—	●	●	●	●	●	—	●	—	—	—	—	—	—							—
Medium to Roughing	MU		150416N-MU	1.6			●	●		●	●											—	●	●	●		●	—	●	—	—	—	—	—	—							—
Medium to Roughing	EM (0°)	M, S	DNMG 150408N-EM	0.8	●	●	●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
Medium to Roughing	EM		150412N-EM	1.2	●	●	●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
Medium to Roughing	EM		150416N-EM	1.6			●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
Medium to Roughing	ME (4°)	P	DNMG 150408N-ME	0.8	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
Medium to Roughing	ME		150412N-ME	1.2	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
Medium to Roughing	ME		150416N-ME	1.6			●										●	●				—						—		—	—	—	—	—	—							—
Medium to Roughing	MX (-15°)	P	DNMG 150408N-MX	0.8		●	●	●		●	●											—						—		—	—	—	—	—	—							—
Medium to Roughing	MX		150412N-MX	1.2		●	●	●		●	●											—						—		—	—	—	—	—	—							—
Medium to Roughing	MX		150416N-MX	1.6																		—						—		—	—	—	—	—	—							—

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

55° Diamond type Negative Inserts

DN 55° Diamond type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

DN■■1504●●

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

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

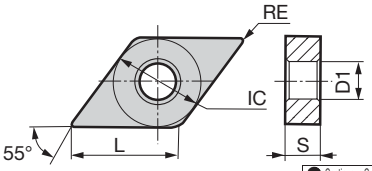
SUMIBORON (CBN) Inserts L54 on
SUMIDIA (PCD) Inserts M12
SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128
Applicable External Holders C14 to C16
Applicable Boring Bars E15, E31 to E33

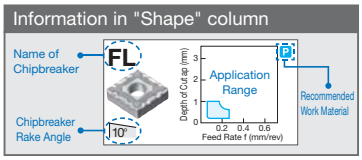
					Corner Radius RE	Coated Carbide																		Coated Cermet			Cermet		Cemented Carbide				
						CVD						PVD	CVD				PVD							PVD									
						AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	**UZ**	4°	K	DNMG 150404N-UZ	0.4			●			●							●	●	●	▲	▲																			
				150408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲	●	●	●	●	●										●	●	●			
				150412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲	●	●	●	●	●										●		●			
	GZ	0°	K	DNMG 150404N-GZ	0.4						●							●	●	●	▲	▲																			
				150408N-GZ	0.8						●							●	●	●	▲	▲																			
				150412N-GZ	1.2						●							●	●	●	▲	▲																			
	HM	15°	P M K	DNMG 150404R-HM	0.4	●	●	●	●	●	●	●	●	●	●		●																							
				150404L-HM	0.4			●			●		●	●	●		●																								
				150408R-HM	0.8	●	●	●	●	●	●	●	●	●	●		●																								
				150408L-HM	0.8			●			●		●	●	●		●																								
Roughing	**MP**	0°	P	DNMM 150404N-MP	0.4			●	●		●	●																												
				150408N-MP	0.8	●	●	●	●	●	●	●																												
				150412N-MP	1.2	●	●	●	●	●	●	●																												
				150416N-MP	1.6	●	●	●		●	●																													
Heavy Cutting	**HP**	0°	P	DNMM 150404N-HP	0.4			●	●		●	●																												
				150408N-HP	0.8			●	●		●	●																												
				150412N-HP	1.2			●	●		●	●																												
				150416N-HP	1.6			●			●																													
For Aluminum	**AX**	30°	N	DNGG 150402R-AX	0.2																																		●
				150402L-AX	0.2																																		●
				150404R-AX	0.4																																		●
				150404L-AX	0.4																																		●
				150408R-AX	0.8																																		●
				150408L-AX	0.8																																		●
Light Cutting of Hardened Steel	**GH**	3°	H	DNGG 150402N-GH	0.2																	●																
				150404N-GH	0.4																	●																
				150408N-GH	0.8																	●																

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

55° Diamond type Negative Inserts

DN 55° Diamond type Negative With Hole





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

DN■■1506●●

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

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

SUMIBORON (CBN) Inserts ☞ L60

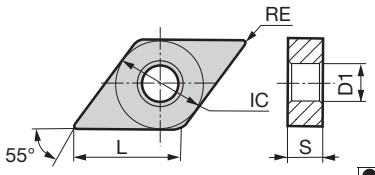
Applicable External Holders ☞ C14, C16 Applicable Boring Bars ☞ E32

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	CVD AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB** 27°	(ap) 2 1 0 0.2 0.4 (f) P	DNMG 150604N-FB	0.4										●																●	●	▲	●	●							
			150608N-FB	0.8										●																●	●	▲	●	●							
	FA 20°	(ap) 2 1 0 0.2 0.4 (f) P	DNMG 150604N-FA	0.4																										●	●		●	●							
			150608N-FA	0.8																										●			●	●							
	FE 20°	(ap) 2 1 0 0.2 0.4 (f) P	DNMG 150602N-FE	0.2	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			150604N-FE	0.4	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			150608N-FE	0.8	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			150612N-FE	1.2	●	●	●	●	●		●		●	●																●	●	▲	●	●							
Finishing	**SU** 13°	(ap) 2 1 0 0.2 0.4 (f) P M S	DNMG 150604N-SU	0.4	●	●	●		●																					●	●		●	●							
			150608N-SU	0.8	●	●	●	●		●	●																			●	●		●	●							
			150612N-SU	1.2	●	●	●	●		●	●																														
	SE 5°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	DNMG 150604N-SE	0.4																													●								
			150608N-SE	0.8																													●								
			150612N-SE	1.2																																					
			150616N-SE	1.6																																					
	SEW 5° → B131 Wiper	(ap) 4 2 0 0.2 0.5 0.8 (f) P	DNMX 150604N-SEW	0.4																																					
			150608N-SEW	0.8																																					
			150612N-SEW	1.2																																					
	EF 20°	(ap) 2 1 0 0.2 0.4 (f) M S	DNMG 150604N-EF	0.4	●	●	●	●				●	●	●		●						●	●	●	●	●														●	●
			150608N-EF	0.8	●	●	●	●				●	●	●		●						●	●	●	●	●														●	●
			150612N-EF	1.2	●	●	●	●				●	●	●		●						●	●	●	●	●														●	●
Light to Medium Cutting	**SX** 3°	(ap) 2 1 0 0.2 0.4 (f) P	DNMG 150604N-SX	0.4																										●	●			●							
			150608N-SX	0.8																										●	●			●							
	EX 16°	(ap) 3 2 1 0 0.2 0.4 (f) M S	DNMG 150604N-EX	0.4								●	●	●	▲	●																									
			150608N-EX	0.8								●	●	●	▲	●																									
			150612N-EX	1.2								●	●	●	▲	●																									
	UP 10°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) M S	DNMG 150604N-UP	0.4																																					
			150608N-UP	0.8																																					
			150612N-UP	1.2																																					
			150616N-UP	1.6																																					

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

55° Diamond type Negative Inserts

DN 55° Diamond type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

DN■■1506●●

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

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

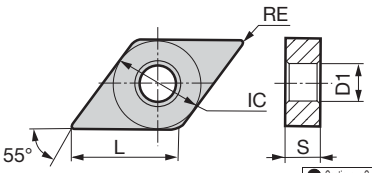
SUMIBORON (CBN) Inserts L60
Applicable External Holders C14, C16
Applicable Boring Bars E32

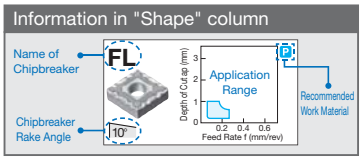
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	CVD AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	**GU**		DNMG 150604N-GU	0.4	●	●	●			●	●						●	●																								
	7°		150608N-GU	0.8	●	●	●	●		●	●	●	●	●	▲	●	●	●																								
			150612N-GU	1.2	●	●	●	●		●	●	●	●	●	▲	●	●	●																								
			150616N-GU	1.6			●			●							●	●																								
	GE		DNMG 150604N-GE	0.4	●	●	●	●	●	●	●																														
	3°		150608N-GE	0.8	●	●	●	●	●	●	●																														
			150612N-GE	1.2	●	●	●	●	●	●	●																														
			150616N-GE	1.6	●	●	●	●	●	●	●																														
	UX		DNMG 150604N-UX	0.4	●	●	●	●		●	●																														
	0°		150608N-UX	0.8	●	●	●	●	●	●	●																														
			DNMG 150610N-UX	1.0																																				
			150612N-UX	1.2	●	●	●	●	●	●	●																														
			150616N-UX	1.6			●			●																														
	UG		DNMG 150604N-UG	0.4			●			●																														
	4°		150608N-UG	0.8			●	●		●	●																														
			150612N-UG	1.2			●			●																														
			150616N-UG	1.6			●			●																														
	EG		DNMG 150604N-EG	0.4	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
	0°		150608N-EG	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
			150612N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
			DNMA 150608	0.8													●	●	●	▲	▲																				
			150612	1.2													●	●	●	▲	▲																				
Medium to Roughing	**MU**		DNMG 150608N-MU	0.8	●	●	●	●	●	●	●		●			●																								
	4°		150612N-MU	1.2	●	●	●	●	●	●	●		●			●																								
			150616N-MU	1.6			●			●																														
	EM		DNMG 150608N-EM	0.8	●	●	●	●				●	●	●									●	●	●																
	0°		150612N-EM	1.2	●	●	●	●				●	●	●									●	●	●																
	ME		DNMG 150608N-ME	0.8	●	●	●	●	●	●	●						●	●																						
	4°		150612N-ME	1.2	●	●	●	●	●	●	●						●	●																						
			150616N-ME	1.6	●	●	●	●	●	●	●						●	●																						
	MX		DNMG 150608N-MX	0.8		●	●			●																														
	-15°		150612N-MX	1.2		●	●			●																														
			150616N-MX	1.6																																				
	UZ		DNMG 150608N-UZ	0.8			●			●							●	●	●	▲	▲																			
	4°		150612N-UZ	1.2			●			●							●	●	●	▲	▲																			

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

55° Diamond type Negative Inserts

DN 55° Diamond type Negative With Hole





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

DN■■1506●●

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

SUMIBORON (CBN) Inserts ☞L60

Applicable External Holders ☞C14, C16 Applicable Boring Bars ☞E32

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	Coated Cermet AC Z150	T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	GZ	K	DNMG 150608N-GZ	0.8						●							●▲	●▲	●▲	●▲	●▲																						
			150612N-GZ	1.2						●							●▲	●▲	●▲	●▲	●▲																						
Roughing	MP	P	DNMM 150604N-MP	0.4			●			●																																	
			150608N-MP	0.8	●	●	●	●	●	●	●																																
			150612N-MP	1.2	●	●	●	●	●	●	●																																
			150616N-MP	1.6	●	●	●			●	●																																
Heavy Cutting	HP	P	DNMM 150604N-HP	0.4			●			●																																	
			150608N-HP	0.8			●	●		●	●																																
			150612N-HP	1.2			●	●		●	●																																
			150616N-HP	1.6			●			●																																	

DN■■1906●●

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

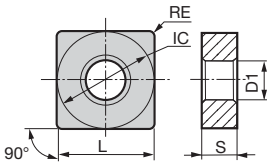
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	Coated Cermet AC Z150	T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	UG	P M	DNMG 190608N-UG	0.8																																						
			190612N-UG	1.2																																							
			190616N-UG	1.6																																							
Medium to Roughing	UZ	P M	DNMG 190608N-UZ	0.8																																						
			190612N-UZ	1.2																																							
			190616N-UZ	1.6																																							

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

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

SN■■S702●●

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

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

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

SN■■07T2●●

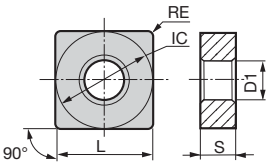
Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	2.78
	Inscribed Circle IC	7.94	Hole Dia. D1	3.15

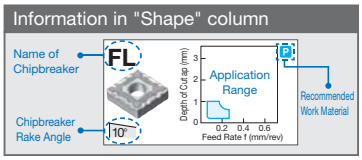
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

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

Square type Negative Inserts

SN Square type Negative With Hole





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

SN■■0903●●

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

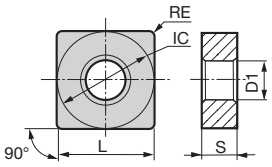
Recommended Application
P Steel
M Stainless Steel
K Cast Iron
N Non-Ferrous Metal
S Exotic Alloy
H Hardened Steel

Applicable External Holders ☞ C22 to C26

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	CVD: AC6040M	PVD: AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	ST	P	SNGG 090304R-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—												●	●	●	●		●			
	0°		090304L-ST	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—												●	●		●					
			090308R-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—												●	●		●					
			090308L-ST	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—												●	●		●					
	GX	P M N	SNGG 090304R-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
	15°		090304L-GX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			090308R-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																●		●			
			090308L-GX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																●		●			●
Medium Cutting	GU	P M	SNMG 090304N-GU	0.4			●			●							●	●				—						—			—	—	—	—	—						
	7°		090308N-GU	0.8	●	●	●	●		●	●						●	●				—						—			●				●						
	UX	P K	SNMG 090308N-UX	0.8				●			●											—						—			—	—	—	—	—						
	0°																																								
	UG	P M	SNMG 090308N-UG	0.8			●	●		●	●											—						—			—	—	—	—	—						
	4°																																								
			SNMA 090304	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																			
			090308	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																			
			SNGA 090304	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	●		●
			090308	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	●		●
Medium to Roughing	UZ	K	SNMG 090312N-UZ	1.2																		—						—			—	—	—	—	—						
	4°																																								
For Chamfering	C	* Corner radius cannot be selected as the insert is for chamfering.	SNGG 090300-C	(0.8)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●	●		●			
	0°																																								
	SJ	P	SNMG 090304N-SJ	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●	—	—	—			
	0°																																								

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

SN■■1204●●

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

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

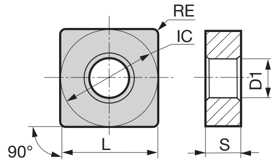
SUMIBORON (CBN) Inserts L69 on
SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128
Applicable External Holders C21 to C26
Applicable Boring Bars E39 to E41

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: PVD T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB 27°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120404N-FB	0.4										●																●	●	▲	●	●							
			120408N-FB	0.8										●																●	●	▲	●	●							
	FL 10°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120408N-FL	0.8			●			●						●														●	●	▲		●							
	FE 20°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120404N-FE	0.4	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			120408N-FE	0.8	●	●	●	●	●		●		●	●																●	●	▲	●	●							
			120412N-FE	1.2	●	●	●	●	●		●		●	●																●	●	▲	●	●							
Finishing	LU 10°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120408N-LU	0.8	●	●	●		●	●			●			●														●	●	▲		●							
			120412N-LU	1.2	●	●	●		●	●			●			●														●	●	▲		●							
	SU 13°	(ap) 2 1 0 0.2 0.4 (f) P M S	SNMG 120404N-SU	0.4																																					
			120408N-SU	0.8	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●	●		●		●	●	▲	●	●							
	SE 5°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 120408N-SE	0.8	●	●	●	●	●	●	●																														
			120412N-SE	1.2	●	●	●	●	●	●	●																														
	EF 20°	(ap) 2 1 0 0.2 0.4 (f) M S	SNMG 120404N-EF	0.4	●	●	●	●				●	●	●									●	●	●																	
			120408N-EF	0.8	●	●	●	●				●	●	●									●	●	●																	
For Chamfering	SJ 0°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	SNMG 120404N-SJ	0.4																																					
Light Cutting	GX 15°	(ap) 2 1 0 0.2 0.4 (f) P M N	SNGG 120404R-GX	0.4																																●		●			
			120404L-GX	0.4																																●		●			
			120408R-GX	0.8																																		●			
			120408L-GX	0.8																																●		●			●
			120412R-GX	1.2																																					
			120412L-GX	1.2																																					
Light to Medium Cutting	SX 3°	(ap) 2 1 0 0.2 0.4 (f) P	SNMG 120404N-SX	0.4																																					
			120408N-SX	0.8	●	●	●	●	●	●	●																				●	●	▲		●						
			120412N-SX	1.2	●	●	●	●	●	●	●																														
	EX 16°	(ap) 3 2 1 0 0.2 0.4 (f) M S	SNMG 120404N-EX	0.4								●	●	●	▲	●							●	●	●	●	●		●													
			120408N-EX	0.8								●	●	●	▲	●							●	●	●	●	●		●													
			120412N-EX	1.2								●	●	●	▲	●							●	●	●	●	●		●													

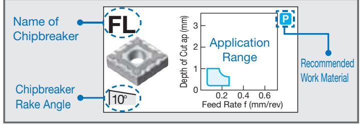
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

Square type Negative Inserts

SN Square type Negative With Hole



Information in "Shape" column



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

SN■■1204●●

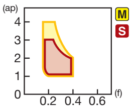
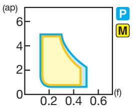
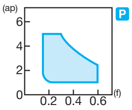
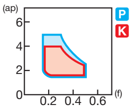
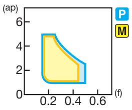
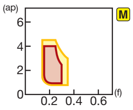
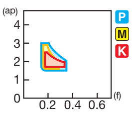
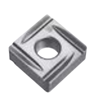
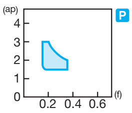
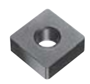
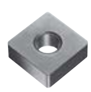
Dimensions (mm)				
	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

SUMIBORON (CBN) Inserts ☞ L69 on
SUMIDIA BINDERLESS Inserts ☞ M28
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C21 to C26
Applicable Boring Bars ☞ E39 to E41

Recommended Application

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

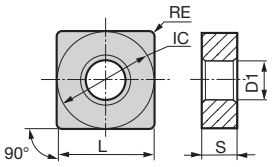
Coated Carbide: CVD (AC8015P–AC830P), PVD (AC6040M), CVD (AC610M–AC415K), PVD (AC503U–ACZ150); Coated Cermet: PVD (T1500Z–T3000Z); Cermet (T1000A, T1500A); Cemented Carbide (ST10P–H1)

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	UP  10°	 M S	SNMG 120404N-UP	0.4						●	●	●	●	●		●						—						—		—	—	—	—	—	—				●			—
			120408N-UP	0.8						●	●	●	●	●		●						—	●	●	●	●	●	—	●	—	—	—	—	—	—				●			—
			120412N-UP	1.2						●	●	●	●	●		●						—	●	●	●	●	●	—	●	—	—	—	—	—	—				●			—
Medium Cutting	GU  7°	 P M	SNMG 120404N-GU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				—	●	●	●		●	—	●	—	●	●			●							
			120408N-GU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				—	●	●	●		●	—	●	—	●	●			●							
			120412N-GU	1.2	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				—	●	●	●		●	—	●	—												
			120416N-GU	1.6	●	●	●	●		●	●						●	●				—						—		—												
	GE  3°	 P	SNMG 120408N-GE	0.8	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			120412N-GE	1.2	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			120416N-GE	1.6	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
	UX  0°	 P K	SNMG 120404N-UX	0.4				●			●											—						—		—	—	—	—	—	—							—
			120408N-UX	0.8	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			120412N-UX	1.2	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			120416N-UX	1.6	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
	UG  4°	 P M	SNMG 120408N-UG	0.8			●	●		●	●											—						—		—						●		●				
			120412N-UG	1.2			●	●		●	●											—						—		—												
			120416N-UG	1.6				●			●											—						—		—	—	—	—	—	—							—
	EG  0°	 M	SNMG 120404N-EG	0.4	●	●	●	●				●	●	●								—	●	●	●			—		—	—	—	—	—	—							—
			120408N-EG	0.8	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
			120412N-EG	1.2	●	●	●	●				●	●	●		●						—	●	●	●	●	●	—		—	—	—	—	—	—					●	●	—
	UM  0°	 P M K	SNMG 120404R-UM	0.4																		—						—		—					●							
			120404L-UM	0.4																		—						—		—					●							
			120408R-UM	0.8																		—						—		—					●							
			120408L-UM	0.8																		—						—		—					●							
			120412R-UM	1.2																		—						—		—					●							
			120412L-UM	1.2																		—						—		—					●							
	UM  0°	 P	SNGG 120404R-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●		●		●			
			120404L-UM	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●	●	●					
			120408R-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●								●	●	●	●	●	●			
			120408L-UM	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●								●	●	●	●	●	●			
			120412R-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●							
			120412L-UM	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			120416R-UM	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			120416L-UM	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			SNMA 120404	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120408	0.8													●	●	●	▲	▲	—						—		—									●			●
			120412	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120416	1.6													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			120420	2.0													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			SNGA 120404	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●																	●			
			120408	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●																	●			●
			120412	1.2	—	—	—	—	—	—	—	—	—	—	—	—																		●					●			

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

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

SN■■1204●●

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

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

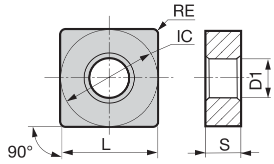
SUMIBORON (CBN) Inserts L69 on
SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128
Applicable External Holders C21 to C26
Applicable Boring Bars E39 to E41

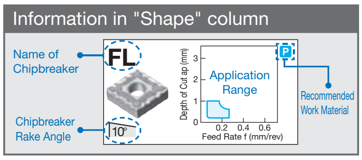
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	CVD: AC6020M	AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	MU		SNMG 120408N-MU	0.8	●	●	●	●	●	●	●		●			●							●	●	●	●	●		●														
			120412N-MU	1.2	●	●	●	●	●	●	●		●			●							●	●	●	●	●		●														
			120416N-MU	1.6	●	●	●	●		●	●					●																										
	EM		SNMG 120408N-EM	0.8	●	●	●	●				●	●	●									●	●	●																	
			120412N-EM	1.2	●	●	●	●				●	●	●									●	●	●																	
	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																																					
Roughing	MP		SNMM 120408N-MP	0.8	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●															
			120412N-MP	1.2	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●															
			120416N-MP	1.6	●	●	●	●	●	●	●		●			●							●	●	●	●															
			120420N-MP	2.0			●			●																															
Heavy Cutting	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	* Corner radius cannot be selected as the insert is for chamfering.	SNGG 120400-C	(0.8)																																●		●			●

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

Square type Negative Inserts

SN Square type Negative With Hole





SN■■1204●●

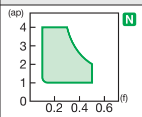
Dimensions (mm)				
	Cutting Edge Length L	12.7	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

SUMIBORON (CBN) Inserts ☞ L69 on
SUMIDIA BINDERLESS Inserts ☞ M28
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C21 to C26
Applicable Boring Bars ☞ E39 to E41

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

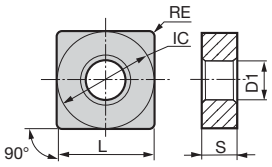
Recommended Application

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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	AX  30°	 N	SNGG 120404R-AX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120404L-AX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120408R-AX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			120408L-AX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

SN■■1506●●

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

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

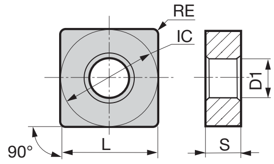
Applicable External Holders C21 to C24

					Coated Carbide																						Coated Cermet		Cermet	Cemented Carbide					
					CVD							PVD		CVD					PVD								PVD								
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC5003U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**EX** 16°	(ap) 4 2 0 0.2 0.4 (f) M S	SNMG 150612N-EX	1.2																		●	●	●	●	●														
Medium Cutting	**GU** 7°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	SNMG 150608N-GU	0.8	●	●	●	●	●	●	●	●	●				●	●																							
			150612N-GU	1.2	●	●	●	●	●	●	●	●	●				●	●																							
			150616N-GU	1.6	●	●	●	●	●	●	●	●	●				●	●																							
	GE 3°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 150608N-GE	0.8	●	●	●	●	●	●	●																													
			150612N-GE	1.2	●	●	●	●	●	●	●																													
			150616N-GE	1.6	●	●	●	●	●	●	●																													
	UG 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M	SNMG 150612N-UG	1.2				●			●																													
	EG 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f)	SNMG 150608N-EG	0.8	●	●	●	●				●	●	●									●	●	●	●	●													●	●	
			150612N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●	
			150616N-EG	1.6	●	●	●	●				●	●	●									●	●	●	●	●															
			SNMA 150612	1.2													●	●	●	▲	▲																				
			150616	1.6													●	●	●	▲	▲																				
Medium to Roughing	**MU** 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P M S	SNMG 150608N-MU	0.8	●	●	●	●	●	●	●												●	●	●	●	●														
			150612N-MU	1.2	●	●	●	●	●	●	●	●			●								●	●	●	●	●														
			150616N-MU	1.6	●	●	●	●	●	●	●	●			●								●	●	●	●	●														
	EM 0°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) M S	SNMG 150608N-EM	0.8	●	●	●	●				●	●	●									●	●	●																
			150612N-EM	1.2	●	●	●	●				●	●	●									●	●	●																
			150616N-EM	1.6	●	●	●	●				●	●	●									●	●	●																
	ME 4°	(ap) 8 6 4 2 0 0.4 0.8 (f) P	SNMG 150608N-ME	0.8	●	●	●	●	●	●	●						●	●																							
			150612N-ME	1.2	●	●	●	●	●	●	●						●	●																							
			150616N-ME	1.6	●	●	●	●	●	●	●						●	●																							
	MX -15°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 150612N-MX	1.2		●	●			●																														
			150616N-MX	1.6		●	●			●																														
	UZ 4°	(ap) 6 4 2 0 0.2 0.4 0.6 (f) P	SNMG 150612N-UZ	1.2			●	●		●	●																													
			150616N-UZ	1.6			●	●		●	●																													
	GZ 0°	(ap) 10 5 0 0.5 1.0 (f) K	SNMG 150612N-GZ	1.2													●	●	●	▲	▲																				
			150616N-GZ	1.6													●	●	●	▲	▲																				

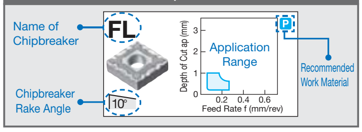
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

Square type Negative Inserts

SN Square type Negative With Hole



Information in "Shape" column



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

SN■■1506●●

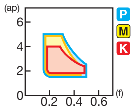
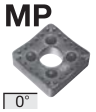
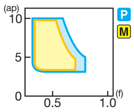
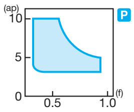
Dimensions (mm)				
Cutting Edge Length L	15.875	Thickness S	6.35
Inscribed Circle IC	15.875	Hole Dia. D1	6.35

Applicable External Holders ☞ C21 to C24

Recommended Application

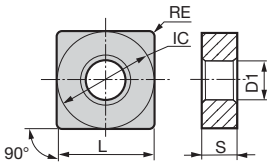
Work Material	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◡	◒	✖	○	◡	✣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

Coated Carbide: CVD (AC8015P–AC6030M), PVD (AC6040M), CVD (AC610M–AC415K), PVD (AC503U–ACZ150); Coated Cermet: PVD (T1500Z, T2500Z, T3000Z); Cermet (T1000A, T1500A); Cemented Carbide (ST10P, ST20E, A30, G10E, EH510, EH520, H1)

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	HM  15°	 P M K	SNMG 150608R-HM	0.8								●	●	●								—						—		—	—	—	—	—	—							—
			150608L-HM	0.8								●	●	●								—						—		—	—	—	—	—	—							—
Heavy Cutting	MP  0°	 P M	SNMM 150612N-MP	1.2	●	●	●		●	●			●									—						—		—	—	—	—	—	—							—
			150616N-MP	1.6	●	●	●		●	●			●									—						—		—	—	—	—	—	—							—
	HG  0°	 P	SNMM 150616N-HG	1.6	●	●	●		●	●												—						—		—	—	—	—	—	—							—

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

SN■■1906●●

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

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

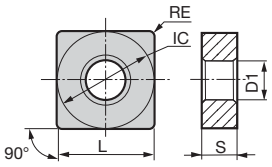
Applicable External Holders ☞ C21 to C24 Applicable Boring Bars ☞ E39, E40

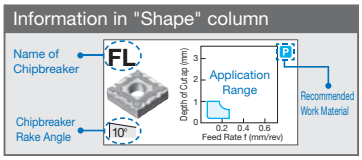
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	Coated Carbide (PVD) AC6020M	AC6030M	AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**EX**		SNMG 190612N-EX	1.2																			●	●	●	●	●																
Medium Cutting	**UX**		SNMG 190612N-UX	1.2	●	●	●	●	●	●	●																																
			190616N-UX	1.6	●	●	●	●	●	●	●																																
	UG		SNMG 190612N-UG	1.2				●			●																																
			190616N-UG	1.6				●			●																																
	EG		SNMG 190612N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●														●	●	
			190616N-EG	1.6	●	●	●	●				●	●	●		●							●	●	●	●	●														●	●	
			SNMA 190612	1.2													●	●	●	▲	▲																					
			190616	1.6													●	●	●	▲	▲																					
Medium to Roughing	**MU**		SNMG 190612N-MU	1.2	●	●	●	●	●	●	●		●			●							●	●	●	●	●																
			190616N-MU	1.6	●	●	●	●	●	●	●		●			●							●	●	●	●	●																
			190624N-MU	2.4	●	●	●	●	●	●	●												●	●	●	●	●																
	EM		SNMG 190612N-EM	1.2	●	●	●	●				●	●	●									●	●	●																		
			190616N-EM	1.6	●	●	●	●				●	●	●									●	●	●																		
			190624N-EM	2.4	●	●	●	●				●	●	●									●	●	●																		
	ME		SNMG 190612N-ME	1.2	●	●	●	●	●	●	●						●	●																								
			190616N-ME	1.6	●	●	●	●	●	●	●						●	●																								
			190624N-ME	2.4	●	●	●	●	●	●	●						●	●																								
	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 Cutting	**MP**		SNMM 190612N-MP	1.2	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●																
			190616N-MP	1.6	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●																

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

Square type Negative Inserts

SN Square type Negative With Hole





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

SN■■1906●●

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

Recommended Application

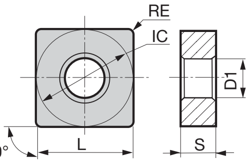
P	Steel	● ◔ ● ✱ ○ ◔ ✱ ✱ ◔ ✱ ✱ ○ ◔ ✱ ✱ ✱ ✱ ● ✱ ✱ ✱ ● ●
M	Stainless Steel	✱ ✱ ✱ ✱ ✱ ✱ ● ● ✱ ○ ◔ ✱ ✱ ✱ ✱ ●
K	Cast Iron	✱ ✱ ✱ ✱ ● ● ✱ ○ ◔ ✱ ✱ ✱ ✱ ● ●
N	Non-Ferrous Metal	●
S	Exotic Alloy	● ● ✱ ◔ ✱ ✱ ●
H	Hardened Steel	●

Applicable External Holders C21 to C24 | Applicable Boring Bars E39, E40

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

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

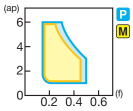
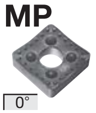
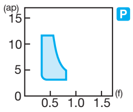
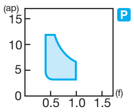
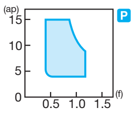
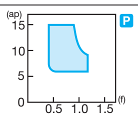
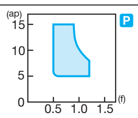
●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◕: General Machining 1st Recommendation ◔: General Machining 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation ✲: Interrupted Cutting 2nd Recommendation

SN ■ ■ 2507 ● ●

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

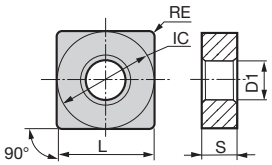
Applicable External Holders ☞ C21, C22, C24

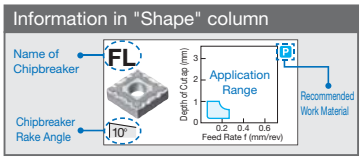
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	UG  4°	 P M	SNMG 250724N-UG	2.4																		—						—		—	—	—	—	—	—							—
Heavy Cutting	MP  0°	 P	SNMM 250724N-MP	2.4	●	●	●	●	●	●	●		●			●						—						—		—	—	—	—	—	—							—
	HP  0°	 P	SNMM 250724N-HP	2.4	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
	HU  -15°	 P	SNMM 250724N-HU	2.4	●	●	●		●	●						●						—						—		—	—	—	—	—	—							—
	HW  -15°	 P	SNMM 250724N-HW	2.4	●	●	●		●	●						●						—						—		—	—	—	—	—	—							—
	HF  -15°	 P	SNMM 250724N-HF	2.4			●	●		●	●					●						—						—		—	—	—	—	—	—							—
			250732N-HF	3.2			●	●		●	●											—						—		—	—	—	—	—	—							—

Square type Negative Inserts

SN Square type Negative With Hole





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

SN■■2509●●

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

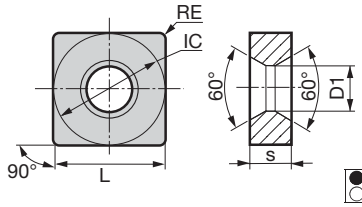
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

Applicable External Holders ☞ C21, C22

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

Square type Negative Inserts

SN Square type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

SN■■3109●●

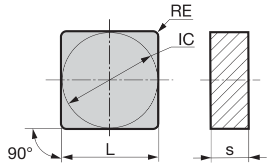
Dimensions (mm)	Cutting Edge Length L	31.75	Thickness S	9.52
	Inscribed Circle IC	31.75	Hole Dia. D1	8.8

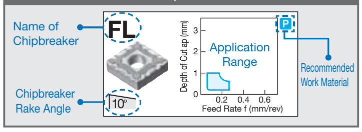
Recommended Application

		Coated Carbide																						Coated Cermet			Cermet	Cemented Carbide						
		CVD							PVD		CVD						PVD							PVD										
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Heavy Cutting	**MP**	(ap) 15 10 5 0 0.5 1.0 1.5 (f) P	**SNMM 310924N-MP**	2.4	●	●	●		●	●			●			●						—	—	—	—	—	—	—	—	—	—	—	—	—			●				—
	HP	(ap) 15 10 5 0 0.5 1.0 1.5 (f) P	**SNMM 310924N-HP**	2.4	●	●	●		●	●						●						—	—	—	—	—	—	—	—	—	—	—	—	—							—
	HU	(ap) 30 20 10 0 0.5 1.0 1.5 (f) P	**SNMM 310924N-HU**	2.4	●	●	●		●	●						●						—	—	—	—	—	—	—	—	—	—	—	—	—							—
	HW	(ap) 30 20 10 0 0.5 1.0 1.5 (f) P	**SNMM 310924N-HW**	2.4	●	●	●		●	●						●						—	—	—	—	—	—	—	—	—	—	—	—	—							—
	HF	(ap) 30 20 10 0 0.5 1.0 1.5 (f) P	**SNMM 310924N-HF**	2.4			●	●		●	●											—	—	—	—	—	—	—	—	—	—	—	—	—							—

Square type Negative Inserts

SN Square type Negative Without Hole





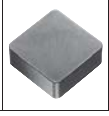
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◐ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
✚ : Interrupted Cutting 1st Recommendation
✛ : Interrupted Cutting 2nd Recommendation

SN■■0903●●

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

SUMIBORON (CBN) Inserts ☞ L72, L73　Applicable External Holders ☞ L122

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

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

SN■■1203●●

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

SUMIBORON (CBN) Inserts ☞ L74　Applicable External Holders ☞ L122

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

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

SN■■1204●●

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

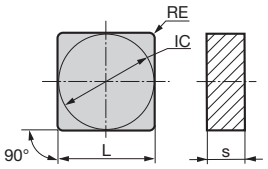
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔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

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

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

Square type Negative Inserts

SN Square type Negative Without Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

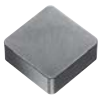
Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

SN■■1207●●

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

Ceramic Inserts B128

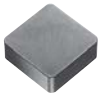
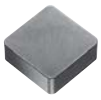
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**SNGN 120708**	0.8																																							
			120712	1.2																																							
			120716	1.6																																							
			120720	2.0																																							

SN■■1504●●

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

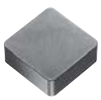
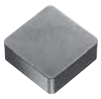
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**SNMN 150408**	0.8																																●			●			
			150412	1.2																																●			●			
			**SNGN 150408**	0.8																																						
			150412	1.2																																							
			150416	1.6																																							

SN■■1904●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**SNMN 190412**	1.2																																	●	●				
			**SNGN 190402**	0.2																																						
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			190408	0.8																																							
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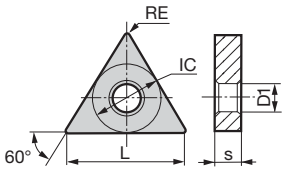
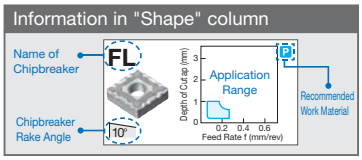
			190416	1.6																																							

Triangular type Negative Inserts

TN Triangular type Negative With Hole





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

TN■■0902●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	CVD AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	GX		TNGG 090204R-GX	0.4																																	●		●			●
			090204L-GX	0.4																																							
			090208R-GX	0.8																																							
			090208L-GX	0.8																																							

TN■■1103●●

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

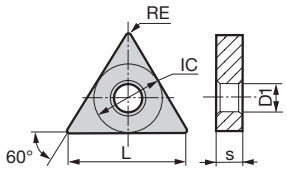
Applicable External Holders ☞ C32 to C34

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	CVD AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FT		TNGG 110302R-FT	0.2																																						
			110302L-FT	0.2																																							
			110304R-FT	0.4																																							
			110304L-FT	0.4																																							
			110308R-FT	0.8																																							
			110308L-FT	0.8																																							
Light Cutting	GX		TNGG 110302R-GX	0.2																																							
			110302L-GX	0.2																																							
			110304R-GX	0.4																																							
			110304L-GX	0.4																																							
			110308R-GX	0.8																																							
			110308L-GX	0.8																																							
Medium Cutting			TNMA 110304	0.4																																							
			110308	0.8																																							
			TNGA 110302	0.2																																							
			110304	0.4																																							
			110308	0.8																																							

Triangular type Negative Inserts

TN Triangular type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

TN■■11T2●●

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

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

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

TN■■1303●●

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

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

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

TN■■1603●●

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

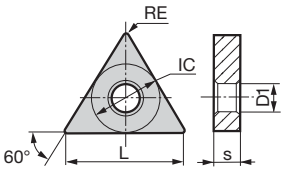
Applicable External Holders C32 to C34

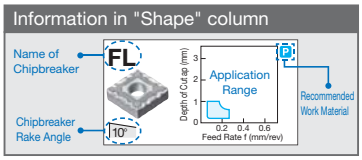
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

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

Triangular type Negative Inserts

TN Triangular type Negative With Hole





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

TN■■1603●●

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

Applicable External Holders ☞ C32 to C34

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

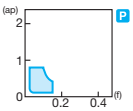
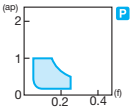
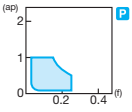
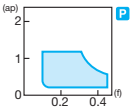
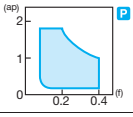
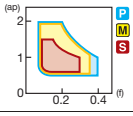
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			TNMA 160304 160308 160312	0.4 0.8 1.2																																						
			TNGA 160302 160304 160308 160312	0.2 0.4 0.8 1.2																																			●		●	●

TN■■1604●●

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

SUMIBORON (CBN) Inserts ☞ L80 on　SUMIDIA (PCD) Inserts ☞ M16
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C29 to C35, D16, D20　Applicable Boring Bars ☞ E15, E47 to E49

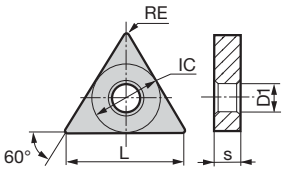
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB**  27°		TNMG 160402N-FB 160404N-FB 160408N-FB	0.2 0.4 0.8										●																● ● ▲	●	●									
	FA  20°		TNMG 160402N-FA 160404N-FA 160408N-FA 160412N-FA	0.2 0.4 0.8 1.2										●																● ● ▲	●	●									
	FL  10°		TNMG 160404N-FL 160408N-FL	0.4 0.8			●			●						●															● ● ▲	●	●									
	FE  20°		TNMG 160402N-FE 160404N-FE 160408N-FE 160412N-FE	0.2 0.4 0.8 1.2	●	●	●	●	●		●		●	●																	● ● ▲	●	●									
Finishing	**LU**  10°		TNMG 160402N-LU 160404N-LU 160408N-LU 160412N-LU	0.2 0.4 0.8 1.2		●	●	●	●	●	●		●			●																● ● ▲	●	●									
	SU  13°		TNMG 160402N-SU 160404N-SU 160408N-SU 160412N-SU	0.2 0.4 0.8 1.2								●	●	●		●					●	●	●		●		●			● ● ▲	●	●									

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

Triangular type Negative Inserts

TN Triangular type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

TN■■1604●●

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

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

SUMIBORON (CBN) Inserts L80 on
SUMIDIA (PCD) Inserts M16
Ceramic Inserts B128
Applicable External Holders C29 to C35, D16, D20
Applicable Boring Bars E15, E47 to E49

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	CVD AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**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	●	●	●	●	●	●	●																																
	EF		TNMG 160404N-EF	0.4	●	●	●	●				●	●	●		●							●	●	●	●	●														●	●	
			160408N-EF	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●														●	●	
	FY		TNGG 160401R-FY	0.1																										●			●	●								
			160401L-FY	0.1																										●			●	●								
			160402R-FY	0.2																			●	●			●	●	●	●	●	●	▲	●	●							
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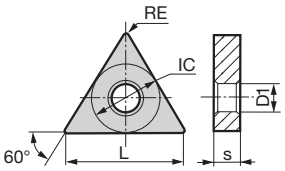
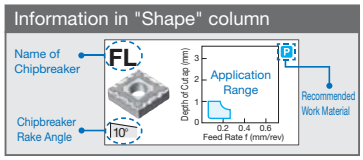
			160404R-FY	0.4																			●	●			●	●	●	●	●	●	▲	●	●							
			160404L-FY	0.4																			●	●			●	●	●	●	●	●	▲	●	●							
			160408R-FY	0.8																									●	●	●			●	●							
			160408L-FY	0.8																									●	●	●			●	●							
			160412R-FY	1.2																											●			●								
			160412L-FY	1.2																											●			●								
	FX		TNGG 160402R-FX	0.2																			●	●			●	●	●	●	●	●	▲	●	●							
			160402L-FX	0.2																			●	●			●	●	●	●	●	●	▲	●	●							
			160404R-FX	0.4																			●	●			●	●	●	●	●	●	▲	●	●							
			160404L-FX	0.4																			●	●			●	●	●	●	●	●	▲	●	●							
			160408R-FX	0.8																									●													
			160408L-FX	0.8																									●													
Light Cutting	**ST**		TNGG 160402R-ST	0.2																														●	●							
			160402L-ST	0.2																														●	●							
			160404R-ST	0.4																														●	●							
			160404L-ST	0.4																														●	●							
			160408R-ST	0.8																														●	●							
			160408L-ST	0.8																														●	●							
			160412R-ST	1.2																															●							
			160412L-ST	1.2																															●							
	GX		TNGG 160404R-GX	0.4																																●		●			●	
			160404L-GX	0.4																																		●			●	
			160408R-GX	0.8																																		●				
			160408L-GX	0.8																																●		●			●	
			160412R-GX	1.2																																						
			160412L-GX	1.2																																						
Light to Medium Cutting	**SX**		TNMG 160404N-SX	0.4	●	●	●	●	●	●	●																				●	●	▲		●							
			160408N-SX	0.8	●	●	●	●	●	●	●																				●	●	▲		●							
			160412N-SX	1.2																																						
			160416N-SX	1.6																																						

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

Triangular type Negative Inserts

TN Triangular type Negative With Hole





Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

TN■■1604●●

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

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

SUMIBORON (CBN) Inserts L80 on | SUMIDIA (PCD) Inserts M16 | Ceramic Inserts B128
Applicable External Holders C29 to C35, D16, D20 | Applicable Boring Bars E15, E47 to E49

Coated Carbide | Coated Cermet | Cermet | Cemented Carbide

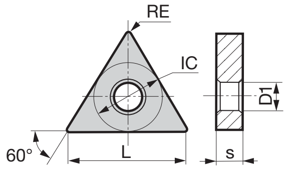
CVD | PVD | CVD | PVD | PVD

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**EX**		TNMG 160404N-EX	0.4								●	●	●	▲	●						●	●	●	●	●		●													
			160408N-EX	0.8								●	●	●	▲	●						●	●	●	●	●		●													
			160412N-EX	1.2								●	●	●	▲	●						●	●	●	●	●		●													
	UP		TNMG 160404N-UP	0.4						●	●	●	●	●		●						●	●	●	●	●		●										●			
			160408N-UP	0.8						●	●	●	●	●		●						●	●	●	●	●		●										●			
			160412N-UP	1.2						●		●	●	●		●						●	●	●	●	●		●													
Medium Cutting	**GU**		TNMG 160404N-GU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				●	●	●		●		●		●	●				●						
			160408N-GU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				●	●	●		●		●		●	●				●						
			160412N-GU	1.2	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				●	●	●		●		●		●	●				●						
			160416N-GU	1.6	●	●	●	●		●	●						●	●																						
	GE		TNMG 160404N-GE	0.4	●	●	●	●	●	●	●																													
			160408N-GE	0.8	●	●	●	●	●	●	●																													
			160412N-GE	1.2	●	●	●	●	●	●	●																													
	UX		TNMG 160404N-UX	0.4	●	●	●	●	●	●	●																													
			160408N-UX	0.8	●	●	●	●	●	●	●																													
			160412N-UX	1.2	●	●	●	●	●	●	●																													
	UG		TNMG 160404N-UG	0.4			●	●		●	●																									●					
			160408N-UG	0.8			●	●		●	●																										●				
			160412N-UG	1.2			●	●		●	●																													
			160416N-UG	1.6			●	●		●	●																													
	EG		TNMG 160404N-EG	0.4	●	●	●	●				●	●	●									●	●	●															
			160408N-EG	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●												●	●
			160412N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●												●	●
	UM		TNMG 160404R-UM	0.4																										●	●	▲	●	●						
			160404L-UM	0.4																										●	●	▲	●	●						
			160408R-UM	0.8																										●	●	▲	●	●						
			160408L-UM	0.8																										●	●	▲	●	●						
	UM		TNGG 160402R-UM	0.2																										●	●	▲	●	●	●	●		●		
			160402L-UM	0.2																										●	●	▲	●	●		●		●		
			160404R-UM	0.4																										●	●	▲	●	●	●	●	●	●		●
			160404L-UM	0.4																										●	●	▲	●	●	●	●	●	●		●
			160408R-UM	0.8																										●	●	▲	●	●	●	●	●	●		●
			160408L-UM	0.8																										●	●	▲	●	●	●	●	●	●		●
			160412R-UM	1.2																													●	●	●		●		
			160412L-UM	1.2																													●	●	●		●		
			160416R-UM	1.6																																				
			160416L-UM	1.6																																				
			TNMA 160404	0.4													●	●	●	▲	▲		●	●	●	●												●		
			160408	0.8													●	●	●	▲	▲		●	●	●	●												●		●
			160412	1.2													●	●	●	▲	▲																	●		
			160416	1.6													●	●	●	▲	▲																			
			160420	2.0													●	●	●	▲	▲																			

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

Triangular type Negative Inserts

TN Triangular type Negative With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

TN ■ ■ 1604 ● ●

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

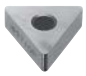
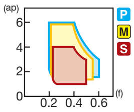
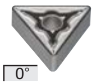
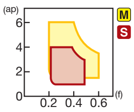
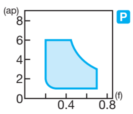
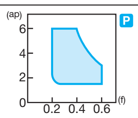
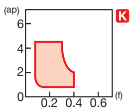
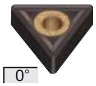
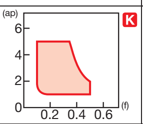
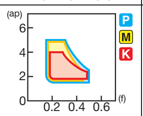
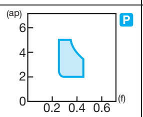
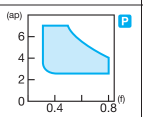
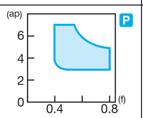
SUMIBORON (CBN) Inserts ☞ L80 on
SUMIDIA (PCD) Inserts ☞ M16
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C29 to C35, D16, D20
Applicable Boring Bars ☞ E15, E47 to E49

Recommended Application

	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M
	Coated Carbide											
	CVD									PVD	CVD	
P Steel	●	◌	◐	✖	○	◌	✧		◌			◌
M Stainless Steel				✧			✧	●	◐	✖	○	◌
K Cast Iron			✧			✧						
N Non-Ferrous Metal												
S Exotic Alloy												
H Hardened Steel												

	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150
	Coated Carbide													
	CVD					PVD								
P Steel									✧		✧	◐		
M Stainless Steel									✧		✧	◐	✧	
K Cast Iron	●	◐	✖	○	◌			✧		✧		◐		
N Non-Ferrous Metal														
S Exotic Alloy							●	◐	✖	◌	✧	✧		
H Hardened Steel						●								

	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Cermet			Cermet		Cemented Carbide						
	PVD											
P Steel	◐	✖	✧	●	◐							
M Stainless Steel												
K Cast Iron				●								
N Non-Ferrous Metal												◐
S Exotic Alloy												
H Hardened Steel												

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M
Medium Cutting			TNGA 160402	0.2	—	—	—	—	—	—	—	—	—	—	—	—
			160404	0.4	—	—	—	—	—	—	—	—	—	—	—	—
			160408	0.8	—	—	—	—	—	—	—	—	—	—	—	—
			160412	1.2	—	—	—	—	—	—	—	—	—	—	—	—
			160416	1.6	—	—	—	—	—	—	—	—	—	—	—	—
Medium to Roughing	MU  4°		TNMG 160408N-MU	0.8	●	●	●	●	●	●	●		●			●
			160412N-MU	1.2	●	●	●	●	●	●	●		●			●
	EM  0°		TNMG 160408N-EM	0.8	●	●	●	●				●	●	●		
			160412N-EM	1.2	●	●	●	●				●	●	●		
	ME  4°		TNMG 160408N-ME	0.8	●	●	●	●	●	●	●					
			160412N-ME	1.2	●	●	●	●	●	●	●					
	MX  -15°		TNMG 160408N-MX	0.8		●	●	●		●	●					
			160412N-MX	1.2		●	●	●		●	●					
	UZ  4°		TNMG 160404N-UZ	0.4			●			●						
			160408N-UZ	0.8			●	●		●	●					
			160412N-UZ	1.2			●	●		●	●					
			160416N-UZ	1.6			●			●						
			160420N-UZ	2.0			●			●						
	GZ  0°		TNMG 160404N-GZ	0.4						●						
			160408N-GZ	0.8						●						
			160412N-GZ	1.2						●						
	HM  15°		TNMG 160404R-HM	0.4	●	●	●	●	●	●	●	●	●	●		●
			160404L-HM	0.4	●	●	●	●	●	●	●	●	●	●		●
			160408R-HM	0.8	●	●	●	●	●	●	●	●	●	●		●
			160408L-HM	0.8	●	●	●	●	●	●	●	●	●	●		●
	MM  10°		TNGG 160404R-MM	0.4	—	—	—	—	—	—	—	—	—	—	—	—
			160404L-MM	0.4	—	—	—	—	—	—	—	—	—	—	—	—
			160408R-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—
			160408L-MM	0.8	—	—	—	—	—	—	—	—	—	—	—	—
Heavy Cutting	MP  0°		TNMM 160404N-MP	0.4			●			●						
			160408N-MP	0.8			●	●	●	●	●					
			160412N-MP	1.2			●	●	●	●	●					
			160416N-MP	1.6												
	HP  0°		TNMM 160408N-HP	0.8			●	●		●	●					
			160412N-HP	1.2			●	●		●	●					

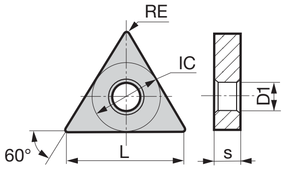
Cat. No.	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150
TNGA 160402						●								
160404						●		●	●	●				
160408						●								
160412														
160416														
TNMG 160408N-MU						—	●	●	●	●	●	—	●	—
160412N-MU						—	●	●	●	●	●	—	●	—
TNMG 160408N-EM						—	●	●	●			—		—
160412N-EM						—	●	●	●			—		—
TNMG 160408N-ME	●	●				—						—		—
160412N-ME	●	●				—						—		—
TNMG 160408N-MX						—						—		—
160412N-MX						—						—		—
TNMG 160404N-UZ	●	●	●	▲	▲	—						—		—
160408N-UZ	●	●	●	▲	▲	—						—		—
160412N-UZ	●	●	●	▲	▲	—						—		—
160416N-UZ	●	●	●	▲	▲	—						—		—
160420N-UZ	●	●	●	▲	▲	—						—		—
TNMG 160404N-GZ	●	●	●	▲	▲	—						—		—
160408N-GZ	●	●	●	▲	▲	—						—		—
160412N-GZ	●	●	●	▲	▲	—						—		—
TNMG 160404R-HM						—	●	●	●	●		—		—
160404L-HM						—	●	●	●	●		—		—
160408R-HM						—	●	●	●	●		—		—
160408L-HM						—	●	●	●	●		—		—
TNGG 160404R-MM	—	—	—	—	—									
160404L-MM	—	—	—	—	—									
160408R-MM	—	—	—	—	—									
160408L-MM	—	—	—	—	—									
TNMM 160404N-MP						—						—		—
160408N-MP						—						—		—
160412N-MP						—						—		—
160416N-MP						—						—		—
TNMM 160408N-HP						—						—		—
160412N-HP						—						—		—

Cat. No.	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
TNGA 160402												
160404				●					●			●
160408				●	●				●			●
160412									●			
160416												
TNMG 160408N-MU	—	—	—	—	—							—
160412N-MU	—	—	—	—	—							—
TNMG 160408N-EM	—	—	—	—	—							—
160412N-EM	—	—	—	—	—							—
TNMG 160408N-ME	—	—	—	—	—							—
160412N-ME	—	—	—	—	—							—
TNMG 160408N-MX	—	—	—	—	—							—
160412N-MX	—	—	—	—	—							—
TNMG 160404N-UZ	—	—	—	—	—							—
160408N-UZ	—	—	—	—	—			●				—
160412N-UZ	—	—	—	—	—							—
160416N-UZ	—	—	—	—	—							—
160420N-UZ	—	—	—	—	—							—
TNMG 160404N-GZ	—	—	—	—	—							—
160408N-GZ	—	—	—	—	—							—
160412N-GZ	—	—	—	—	—							—
TNMG 160404R-HM	—	—	—	—	—							—
160404L-HM	—	—	—	—	—							—
160408R-HM	—	—	—	—	—							—
160408L-HM	—	—	—	—	—							—
TNGG 160404R-MM												
160404L-MM												
160408R-MM												
160408L-MM												
TNMM 160404N-MP	—	—	—	—	—							—
160408N-MP	—	—	—	—	—							—
160412N-MP	—	—	—	—	—							—
160416N-MP	—	—	—	—	—							—
TNMM 160408N-HP	—	—	—	—	—							—
160412N-HP	—	—	—	—	—							—

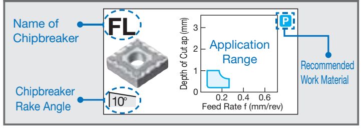
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

Triangular type Negative Inserts

TN Triangular type Negative With Hole



Information in "Shape" column



●: Continuous Cutting 1st Recommendation / ○: Continuous Cutting 2nd Recommendation
◉: General Machining 1st Recommendation / ◎: General Machining 2nd Recommendation
■: Interrupted Cutting 1st Recommendation / □: Interrupted Cutting 2nd Recommendation

TN▢▢1604●●

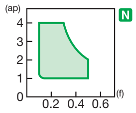
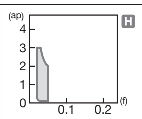
Dimensions (mm)				
	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	3.81

SUMIBORON (CBN) Inserts ☞ L80 on
SUMIDIA (PCD) Inserts ☞ M16
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C29 to C35, D16, D20
Applicable Boring Bars ☞ E15, E47 to E49

Recommended Application

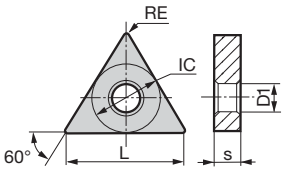
Material	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◎	◉	■	○	◎	□		◎	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

Coated Carbide: CVD (AC8015P–AC6030M), PVD (AC6040M), CVD (AC610M–AC415K), PVD (AC503U–ACZ150); Coated Cermet: PVD (T1500Z, T2500Z, T3000Z); Cermet (T1000A, T1500A); Cemented Carbide (ST10P, ST20E, A30, G10E, EH510, EH520, H1)

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	AX  30°	 N	TNGG 160402R-AX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160402L-AX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160404R-AX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160404L-AX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160408R-AX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			160408L-AX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
Light Cutting of Hardened Steel	GH  3°	 H	TNGG 160402N-GH	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			160404N-GH	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			160408N-GH	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Triangular type Negative Inserts

TN Triangular type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

TN■■2204●●

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

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

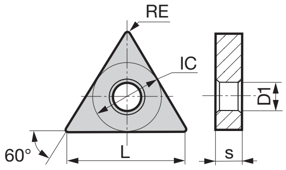
SUMIBORON (CBN) Inserts L85
Applicable External Holders C30 to C35
Applicable Boring Bars E48, E49

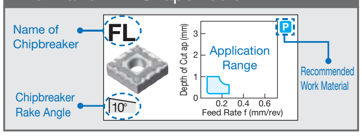
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	PVD: AC6030M	AC6040M	AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: PVD: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

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

Triangular type Negative Inserts

TN Triangular type Negative With Hole





TN ■ ■ 2204 ● ●

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

SUMIBORON (CBN) Inserts ☞ L85

Applicable External Holders ☞ C30 to C35

Applicable Boring Bars ☞ E48, E49

● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◕ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
⌘ : Interrupted Cutting 1st Recommendation
⌗ : Interrupted Cutting 2nd Recommendation

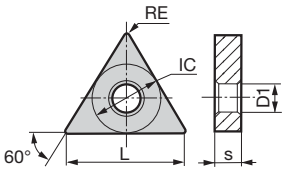
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Class	Coated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

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

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

Triangular type Negative Inserts

TN Triangular type Negative With Hole



Grade Selection Guide C A2
Chipbreaker Selection C B4 on
Insert Grade Selection Guide by Work Material C A8 on

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

TN■■2706●●

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

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

Applicable External Holders C C30, C31

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

TN■■3309●●

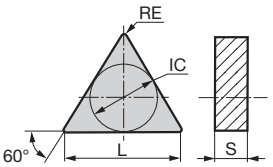
Dimensions (mm)	Cutting Edge Length L	33.0	Thickness S	9.52
	Inscribed Circle IC	19.05	Hole Dia. D1	7.93

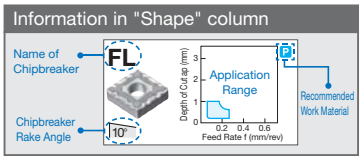
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

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

Triangular type Negative Inserts

TN Triangular type Negative Without Hole





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

TN■■1603●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TNMN 160304**	0.4																																							
			160308	0.8																																							
Medium Cutting			**TNGN 160304**	0.4																																							
			160308	0.8																																							
			160312	1.2																																							

TN■■1604●●

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

SUMIBORON (CBN) Inserts ☞L86

Applicable External Holders ☞L122

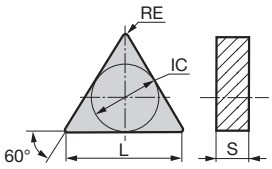
Recommended Application: P Steel, M Stainless Steel, K Cast Iron, N Non-Ferrous Metal, S Exotic Alloy, H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TNMN 160404**	0.4																																							
			160408	0.8													●	●	●	▲	▲																		●		●			
			160412	1.2													●	●	●	▲	▲																							
			160416	1.6													●	●	●	▲	▲																							
			160420	2.0																																							
Medium Cutting			**TNGN 160404**	0.4																																							
			160408	0.8																																					●		
			160412	1.2																																							

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

Triangular type Negative Inserts

TN Triangular type Negative Without Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TN■■1607●●

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

Ceramic Inserts B128

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

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

TN■■2204●●

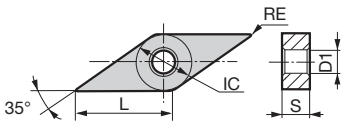
Dimensions (mm)	Cutting Edge Length L	22.0	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	

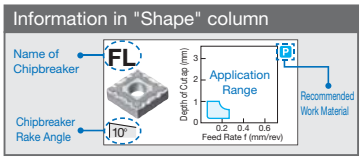
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

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

35° Diamond type Negative Inserts

VN 35° Diamond type Negative With Hole





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

VN■■1604●●

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

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

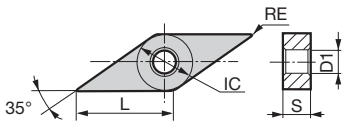
SUMIBORON (CBN) Inserts L103 on | SUMIDIA (PCD) Inserts M23 | SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128 | Applicable External Holders C38, C39

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	PVD: AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FB**		VNMG 160404N-FB	0.4										●																												
			VNMG 160408N-FB	0.8										●																												
	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																																					
	FE		VNMG 160402N-FE	0.2	●	●	●	●	●		●		●	●																										
			VNMG 160404N-FE	0.4	●	●	●	●	●		●		●	●																										
			VNMG 160408N-FE	0.8	●	●	●	●	●		●		●	●																										
			VNMG 160412N-FE	1.2	●	●	●	●	●		●		●	●																										
Finishing	**LU**		VNMG 160402N-LU	0.2									●			●																									
			VNMG 160404N-LU	0.4	●	●	●		●	●			●			●																									
			VNMG 160408N-LU	0.8	●	●	●		●	●			●			●																									
			VNMG 160412N-LU	1.2	●	●			●																															
	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	0.2	●	●	●	●				●	●	●		●							●	●	●	●	●													
			VNMG 160404N-EF	0.4	●	●	●	●				●	●	●		●							●	●	●	●	●													
			VNMG 160408N-EF	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●													
	EF		VNGG 160402N-EF	0.2												●								●	●	●	●													
			VNGG 160404N-EF	0.4												●								●	●	●	●													
	FY		VNGG 160402R-FY	0.2																								●												
			VNGG 160402L-FY	0.2																								●												
			VNGG 160404R-FY	0.4																								●												
			VNGG 160404L-FY	0.4																								●												
			VNGG 160408R-FY	0.8																								●												
			VNGG 160408L-FY	0.8																								●												

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

35° Diamond type Negative Inserts

VN 35° Diamond type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

VN■■1604●●

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

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

SUMIBORON (CBN) Inserts L103 on
SUMIDIA (PCD) Inserts M23
SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128
Applicable External Holders C38, C39

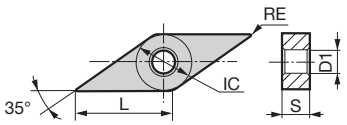
Coated Carbide (CVD / PVD) | Coated Cermet (PVD) | Cermet | Cemented Carbide

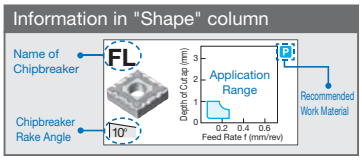
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FX** 14°	P	VNGG 160402R-FX	0.2																								●													
			160402L-FX	0.2																								●													
			160404R-FX	0.4																								●													
			160404L-FX	0.4																								●													
			160408R-FX	0.8																								●													
			160408L-FX	0.8																								●													
Light to Medium Cutting	**SX** 3°	P	VNMG 160404N-SX	0.4	●	●	●	●	●	●	●																				●	●		●							
			160408N-SX	0.8	●	●	●	●	●	●	●																				●	●		●							
			160412N-SX	1.2																																					
	EX 16°	M S	VNMG 160404N-EX	0.4								●	●	●	▲	●						●	●	●	●	●		●													
			160408N-EX	0.8								●	●	●	▲	●						●	●	●	●	●		●													
	UP 10°	M S	VNMG 160404N-UP	0.4						●	●	●	●		●																							●			
			160408N-UP	0.8						●	●	●	●		●																							●			
Medium Cutting	**GU** 7°	P M	VNMG 160404N-GU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				●	●	●		●		●			●	●		●							
			160408N-GU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●	●	●				●	●	●		●		●			●	●		●							
			160412N-GU	1.2	●	●	●	●		●	●			●			●	●				●	●	●		●		●													
	GE 3°	P	VNMG 160404N-GE	0.4	●	●	●	●	●	●	●																													
			160408N-GE	0.8	●	●	●	●	●	●	●																													
			160412N-GE	1.2	●	●	●	●	●	●	●																													
	UX 0°	P K	VNMG 160404N-UX	0.4	●	●	●	●	●	●	●																													
			160408N-UX	0.8	●	●	●	●	●	●	●																													
			160412N-UX	1.2	●	●	●	●	●	●	●																													
	UG 4°	P M	VNMG 160404N-UG	0.4			●	●		●	●																													
			160408N-UG	0.8			●	●		●	●																													
	EG 0°	M	VNMG 160404N-EG	0.4	●	●	●	●				●	●	●									●	●	●														●	●	
			160408N-EG	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●												●	●	
			160412N-EG	1.2	●	●	●	●				●	●	●									●	●	●															
			VNMA 160404	0.4													●	●	●	▲	▲																			
			160408	0.8													●	●	●	▲	▲																			
			160412	1.2													●	●	●	▲	▲																			
			VNGA 160404	0.4																		●																		
			160408	0.8																		●																		

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

35° Diamond type Negative Inserts

VN 35° Diamond type Negative With Hole





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

VN■■1604●●

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

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

SUMIBORON (CBN) Inserts L103 on | SUMIDIA (PCD) Inserts M23 | SUMIDIA BINDERLESS Inserts M28
Ceramic Inserts B128 | Applicable External Holders C38, C39

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	UZ	K	VNMG 160404N-UZ	0.4			●	●		●	●						●	●	●	▲	▲		●	●	●	●	●									●	●		●				
			160408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲		●	●	●	●	●									●	●		●				
			160412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲															●			●				
	GZ	K	VNMG 160404N-GZ	0.4						●							●	●	●	▲	▲																						
			160408N-GZ	0.8						●							●	●	●	▲	▲																						
			160412N-GZ	1.2						●							●	●	●	▲	▲																						
For Aluminum	AX	N	VNGG 160402R-AX	0.2																																						●
			160402L-AX	0.2																																						●
			160404R-AX	0.4																																						●
			160404L-AX	0.4																																						●
			160408R-AX	0.8																																						●
			160408L-AX	0.8																																						●

VN■■2204●●

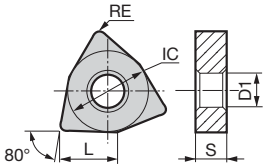
Dimensions (mm)	Cutting Edge Length L	22.1	Thickness S	4.76
	Inscribed Circle IC	12.7	Hole Dia. D1	5.16

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	UZ	K	VNMG 220408N-UZ	0.8																																						
			220412N-UZ	1.2																																						

Trigon type Negative Inserts

WN Trigon type Negative With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

WN□□06T3●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	SU		WNMG 06T304N-SU	0.4			●			●																																	
			06T308N-SU	0.8			●			●																																	
Medium Cutting	UG		WNMG 06T304N-UG	0.4			●			●																																	
			06T308N-UG	0.8			●			●																																	

WN□□0604●●

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

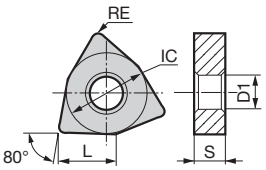
Applicable External Holders C43
Applicable Boring Bars E64, E65

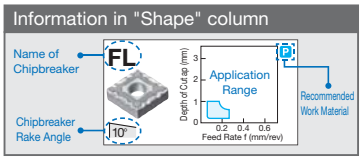
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB		WNMG 060404N-FB	0.4										●																	●	●	▲		●							
			060408N-FB	0.8										●																	●	●	▲		●							
	FE		WNMG 060404N-FE	0.4	●	●	●	●	●		●		●	●																	●	●	▲		●							
			060408N-FE	0.8	●	●	●	●	●		●		●	●																	●	●	▲		●							
Finishing	LU		WNMG 060404N-LU	0.4	●	●	●	●	●	●	●																				●	●										
			060408N-LU	0.8	●	●	●	●	●	●	●																				●	●										
			060412N-LU	1.2	●	●	●	●	●	●	●																				●										
	LUW	→B131 Wiper	WNMG 060404N-LUW	0.4	●	●	●		●	●			●			●															●	●			●							
			060408N-LUW	0.8	●	●	●		●	●			●			●															●	●			●							
	SU		WNMG 060404N-SU	0.4	●	●	●	●	●	●	●	●	●																		●	●										
			060408N-SU	0.8	●	●	●	●	●	●	●	●	●																		●	●										
			060412N-SU	1.2	●	●	●	●	●	●	●	●	●																		●										
	SEW	→B131 Wiper	WNMG 060404N-SEW	0.4	●	●	●	●	●	●	●																															
			060408N-SEW	0.8	●	●	●	●	●	●	●																															
	EF		WNMG 060404N-EF	0.4	●	●	●	●				●	●	●									●	●	●		●															
			060408N-EF	0.8	●	●	●	●				●	●	●									●	●	●		●															

Trigon type Negative Inserts

WN Trigon type Negative With Hole





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

WN■■0604●●

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

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

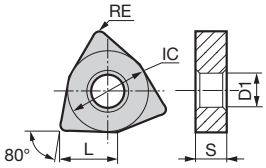
Applicable External Holders ☞C43 Applicable Boring Bars ☞E64, E65

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	PVD: AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting	**GU**		WNMG 060404N-GU	0.4	●	●	●	●	●	●	●	●	●	●			●	●													●	●											
			060408N-GU	0.8	●	●	●	●	●	●	●	●	●	●			●	●													●	●											
			060412N-GU	1.2	●	●	●	●	●	●	●	●	●	●			●	●													●												
	GE		WNMG 060408N-GE	0.8	●	●	●	●	●	●	●																															
			060412N-GE	1.2	●	●	●	●	●	●	●																															
	GUW →B131 Wiper		WNMG 060408N-GUW	0.8	●	●	●	●	●	●	●																															
	UG		WNMG 060404N-UG	0.4			●			●																															
			060408N-UG	0.8			●			●																															
	EG		WNMG 060408N-EG	0.8	●	●	●	●				●	●	●									●	●	●		●															
			060412N-EG	1.2	●	●	●	●				●	●	●									●	●	●		●															
Medium to Roughing	**MU**		WNMG 060408N-MU	0.8			●			●																															
			060412N-MU	1.2			●			●																															
	ME		WNMG 060408N-ME	0.8	●	●	●	●	●	●	●						●	●																							
			060412N-ME	1.2	●	●	●	●	●	●	●						●	●																							
	GZ		WNMG 060408N-GZ	0.8													●	●	●	▲	▲																			
			060412N-GZ	1.2													●	●	●	▲	▲																			

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

Trigon type Negative Inserts

WN Trigon type / Negative / With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

WN■■0804●●

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

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

SUMIBORON (CBN) Inserts L114, L115

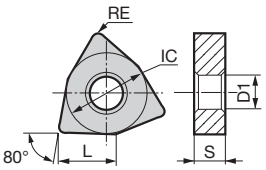
Applicable External Holders C42, C43 — Applicable Boring Bars E64, E65

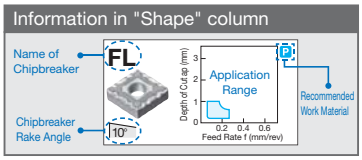
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FB 27°		WNMG 080402N-FB	0.2										●																	●	●	▲	●	●								
			080404N-FB	0.4										●																	●	●	▲	●	●								
			080408N-FB	0.8										●																	●	●	▲	●	●								
	FA 20°		WNMG 080402N-FA	0.2																											●	●	▲	●	●								
			080404N-FA	0.4																											●	●	▲	●	●								
			080408N-FA	0.8																											●	●	▲	●	●								
	FL 10°		WNMG 080404N-FL	0.4			●			●					●																●	●	▲	●	●								
			080408N-FL	0.8			●			●					●																●	●	▲	●	●								
	FE 20°		WNMG 080402N-FE	0.2	●	●	●	●	●		●		●	●																	●	●	▲	●	●								
			080404N-FE	0.4	●	●	●	●	●		●		●	●																	●	●	▲	●	●								
			080408N-FE	0.8	●	●	●	●	●		●		●	●																	●	●	▲	●	●								
			080412N-FE	1.2	●	●	●	●	●		●		●	●																	●	●	▲	●	●								
Finishing	LU 10°		WNMG 080404N-LU	0.4	●	●	●	●	●	●	●		●			●															●	●	▲	●	●								
			080408N-LU	0.8	●	●	●	●	●	●	●		●			●															●	●	▲	●	●								
			080412N-LU	1.2	●	●	●	●	●	●	●		●			●															●	●	▲		●								
	LUW 10° →B131 Wiper		WNMG 080404N-LUW	0.4	●	●	●		●	●			●			●															●	●	▲		●								
			080408N-LUW	0.8	●	●	●		●	●			●			●															●	●	▲		●								
			080412N-LUW	1.2	●	●	●		●	●			●			●															●	●	▲		●								
	SU 13°		WNMG 080404N-SU	0.4	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●	●		●		●	●	▲	●	●								
			080408N-SU	0.8	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●	●		●		●	●	▲	●	●								
			080412N-SU	1.2	●	●	●	●	●	●	●	●	●	●		●							●	●	●	●	●		●		●	●	▲	●	●								
	SU 13°		WNGG 080404N-SU	0.4																											●	●	▲	●	●								
	SE 5°		WNMG 080404N-SE	0.4	●	●	●	●	●	●	●																				●	●		●	●								
			080408N-SE	0.8	●	●	●	●	●	●	●																				●	●		●	●								
			080412N-SE	1.2	●	●	●	●	●	●	●																																
	SEW 5° →B131 Wiper		WNMG 080404N-SEW	0.4	●	●	●		●	●																					●	●			●								
			080408N-SEW	0.8	●	●	●		●	●																					●	●			●								
			080412N-SEW	1.2	●	●	●		●	●																																
	EF 20°		WNMG 080404N-EF	0.4	●	●	●	●				●	●	●		●							●	●	●	●	●														●	●	
			080408N-EF	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●														●	●	

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

Trigon type Negative Inserts

WN Trigon type Negative With Hole





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

WN■■0804●●

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

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

SUMIBORON (CBN) Inserts ☞L114, L115

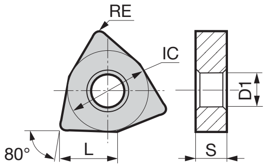
Applicable External Holders ☞C42, C43 Applicable Boring Bars ☞E64, E65

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	PVD: AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	Coated Cermet: ACZ150	T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	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								●	●	●	▲	●							●	●	●	●	●		●													
	UP 10°		WNMG 080408N-UP	0.8						●	●	●	●	●		●							●	●	●	●	●		●													
			080412N-UP	1.2						●	●	●	●	●		●							●	●	●	●	●		●													
	GU 7°		WNMG 080404N-GU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●	●	●					●	●	●		●		●		●	●			●							
			080408N-GU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●	●	●					●	●	●		●		●		●	●			●							
			080412N-GU	1.2	●	●	●	●	●	●	●	●	●	●	▲	●	●	●					●	●	●		●		●													
	GE 3°		WNMG 080404N-GE	0.4	●	●	●	●	●	●	●																														
			080408N-GE	0.8	●	●	●	●	●	●	●																														
			080412N-GE	1.2	●	●	●	●	●	●	●																														
			080416N-GE	1.6	●	●	●	●	●	●	●																														
	GUW 0° →B131 Wiper		WNMG 080408N-GUW	0.8	●	●	●		●	●																														
			080412N-GUW	1.2	●	●	●		●	●																														
Medium Cutting	UX 0°		WNMG 080404N-UX	0.4	●	●	●	●	●	●	●																														
			080408N-UX	0.8	●	●	●	●	●	●	●																														
			080412N-UX	1.2	●	●	●	●	●	●	●																														
	UG 4°		WNMG 080404N-UG	0.4			●	●		●	●																														
			080408N-UG	0.8			●	●		●	●																														
			080412N-UG	1.2			●	●		●	●																														
	EG 0°		WNMG 080404N-EG	0.4	●	●	●	●				●	●	●									●	●	●															●	●
			080408N-EG	0.8	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●
			080412N-EG	1.2	●	●	●	●				●	●	●		●							●	●	●	●	●													●	●
			WNMA 080408	0.8													●	●	●	▲	▲																			
			080412	1.2													●	●	●	▲	▲																			
			080416	1.6													●	●	●	▲	▲																			
Medium to Roughing	MU 4°		WNMG 080408N-MU	0.8	●	●	●	●	●	●	●		●			●						●	●	●	●	●		●													
			080412N-MU	1.2	●	●	●	●	●	●	●		●			●						●	●	●	●	●		●													
			080416N-MU	1.6	●	●	●		●	●																														
	EM 0°		WNMG 080408N-EM	0.8	●	●	●	●				●	●	●									●	●	●																
			080412N-EM	1.2	●	●	●	●				●	●	●									●	●	●																

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

Trigon type Negative Inserts

WN Trigon type Negative With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

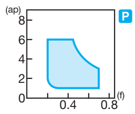
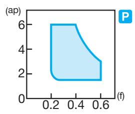
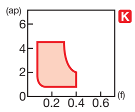
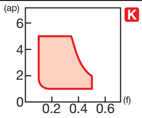
●: Continuous Cutting 1st Recommendation　○: Continuous Cutting 2nd Recommendation
◕: General Machining 1st Recommendation　◔: General Machining 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation　✧: Interrupted Cutting 2nd Recommendation

WN■■0804●●

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

SUMIBORON (CBN) Inserts ☞ L114, L115
Applicable External Holders ☞ C42, C43
Applicable Boring Bars ☞ E64, E65

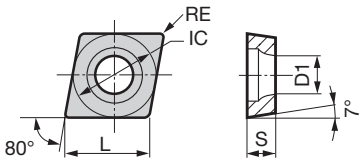
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔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

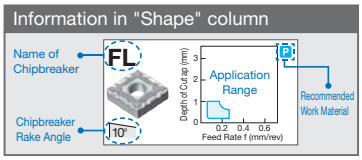
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium to Roughing	ME  4°	 P	WNMG 080408N-ME	0.8	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			080412N-ME	1.2	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
			080416N-ME	1.6	●	●	●	●	●	●	●						●	●				—						—		—	—	—	—	—	—							—
	MX  -15°	 P	WNMG 080408N-MX	0.8		●	●	●		●	●											—						—		—	—	—	—	—	—							—
			080412N-MX	1.2		●	●	●		●	●											—						—		—	—	—	—	—	—							—
	UZ  4°	 K	WNMG 080404N-UZ	0.4			●			●							●	●	●	▲	▲	—	●	●	●	●	●	—		—	—	—	—	—	—							—
			080408N-UZ	0.8			●	●		●	●						●	●	●	▲	▲	—	●	●	●	●	●	—		—	—	—	—	—	—							—
			080412N-UZ	1.2			●	●		●	●						●	●	●	▲	▲	—	●	●	●	●	●	—		—	—	—	—	—	—							—
	GZ  0°	 K	WNMG 080404N-GZ	0.4						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			080408N-GZ	0.8						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			080412N-GZ	1.2						●							●	●	●	▲	▲	—						—		—	—	—	—	—	—							—

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

80° Diamond type Positive Inserts

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





Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

CC■■03X1●●

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

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

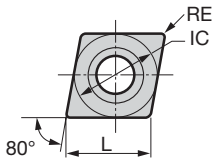
SUMIBORON (CBN) Inserts L43 | SUMIDIA BINDERLESS Inserts M28

Applicable Boring Bars E18, E20

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

80° Diamond type Positive Inserts

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



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

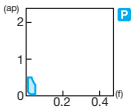
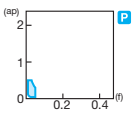
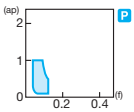
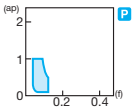
● Continuous Cutting 1st Recommendation ○ Continuous Cutting 2nd Recommendation
● General Machining 1st Recommendation ○ General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

CC■■04X1●●

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

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

SUMIBORON (CBN) Inserts L44
SUMIDIA BINDERLESS Inserts M28
Applicable Boring Bars E18, E20

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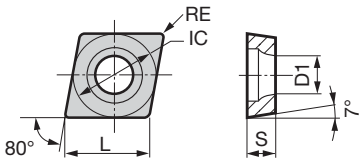
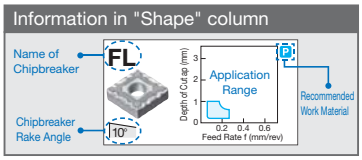
			04X101L-FY	0.1																							●			●			●	●							
			04X102R-FY	0.2																							●			●			●	●							
			04X102L-FY	0.2																							●			●			●	●							
			04X104R-FY	0.4																							●			●			●	●							
			04X104L-FY	0.4																							●			●			●	●							

80° Diamond type Positive Inserts

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





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

CC■■0602●●

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

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

SUMIBORON (CBN) Inserts L45, L46 · SUMIDIA (PCD) Inserts M10 · SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C13, D13, D17, D22, D23 · Applicable Boring Bars E18 to E20

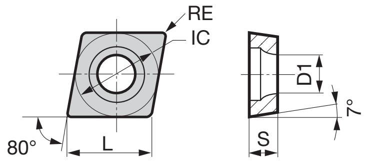
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	Coated Carbide (CVD) AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	Coated Cermet AC2150	T15002Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FF**		CCGT 060201MN-FF New	< 0.1																				●	●			●															
			060202MN-FF New	< 0.2																				●	●			●															
			060204MN-FF New	< 0.4																				●	●			●															
	FB		CCMT 060202N-FB	0.2																									●		●	●	▲	●	●							
			060204N-FB	0.4																									●		●	●	▲	●	●							
	LU		CCMT 060202N-LU	0.2	●	●	●		●	●			●	●		●						—						●		●	●	▲	●	●							
			060204N-LU	0.4	●	●	●		●	●			●	●		●						—						●		●	●	▲	●	●							
	FP		CCMT 060202N-FP	0.2																														●								
			060208N-FP	0.8																														●								
	FC		CCGT 060201MN-FC	< 0.1																								●	●	●				●	●							
			060202MN-FC	< 0.2																								●	●	●				●	●							
			060204MN-FC	< 0.4																								●	●	●				●	●							
Finishing	**FX**		CCGT 0602003R-FX	0.03																				●	●			●	●					●	●							
			0602003L-FX	0.03																				●	●			●	●					●	●							
			060201R-FX	0.1																				●	●			●	●			●		●	●							
			060201L-FX	0.1																				●	●			●	●			●		●	●							
			060202R-FX	0.2																				●	●			●	●			●		●	●							
			060202L-FX	0.2																				●	●			●	●			●		●	●							
			060204R-FX	0.4																				●	●			●	●						●							
			060204L-FX	0.4																				●	●			●	●			●			●							
	FX		CCET 0602003R-FX	0.03																								●														
			0602003L-FX	0.03																								●														
			060201R-FX	0.1																								●														
			060201L-FX	0.1																								●														
			060202R-FX	0.2																								●														
			060202L-FX	0.2																								●														
			060204R-FX	0.4																								●														
			060204L-FX	0.4																								●														
	FY		CCET 0602003R-FY	0.03																								●														
			0602003L-FY	0.03																								●														
			0602008R-FY	0.08																																						
			0602008L-FY	0.08																																						
			060201R-FY	0.1																								●														
			060201L-FY	0.1																								●														
			0602018R-FY	0.18																																						
			0602018L-FY	0.18																																						
			060202R-FY	0.2																								●														
			060202L-FY	0.2																								●														
			060204R-FY	0.4																								●														
			060204L-FY	0.4																								●														

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

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

80° Diamond type Positive Inserts

CC — 80° Diamond type 7° Pos. With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

CC■■0602●●

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

SUMIBORON (CBN) Inserts ☞ L45, L46
SUMIDIA (PCD) Inserts ☞ M10
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C13, D13, D17, D22, D23
Applicable Boring Bars ☞ E18 to E20

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

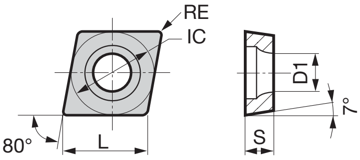
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB 15°	P	CCMT 060202N-LB	0.2		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			060204N-LB	0.4		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			060208N-LB	0.8		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
	SU 8°	P	CCMT 060202N-SU	0.2	●	●	●	●		●	●	●	●	●	▲	●						—	●	●	●			—	●	—	●	●	▲	●	●							
			060204N-SU	0.4	●	●	●	●		●	●	●	●	●	▲	●						—	●	●	●			—	●	—	●	●	▲	●	●							
			060208N-SU	0.8	●	●	●	●		●	●	●	●	●	▲	●						—	●	●	●		●	—	●	—	●	●		●	●							
	SI 15°	P	CCGT 060201MN-SI New	< 0.1	—	—	—	—	—	—	—	—	—	—			—	—	—	—	—	—		●	●			●			—	—	—	—	—							
			060202MN-SI New	< 0.2	—	—	—	—	—	—	—	—	—	—			—	—	—	—	—	—		●	●			●			—	—	—	—	—							
			060204MN-SI New	< 0.4	—	—	—	—	—	—	—	—	—	—			—	—	—	—	—	—		●	●			●			—	—	—	—	—							
	SC 6°	P	CCMT 060204N-SC	0.4			●			●												—						—		—	—	—	—	—	—			●				—
	SC 6°	P	CCGT 0602003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●	—	—	—	—	—	—	
			CCGT 060201MN-SC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
			060202MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
			060204MN-SC	< 0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									●	●			●	—	—	—	—	—	—	
			CCMW 060204	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			CCGW 060200	0	—	—	—	—	—	—	—	—	—	—	—	—																										
			060201	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										
Light to Medium Cutting	GU 5°	P	CCMT 060204N-GU	0.4	●	●	●	●				●	●	●								—			●			—		—	●	●			●							
			060208N-GU	0.8	●	●	●	●				●	●	●								—			●			—		—	●	●			●							
For Aluminum	AG 20°	N	CCGT 060202N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			060204N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AY 15°	N	CCGT 060201R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			060201L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			060202R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			060202L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			060204R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			060204L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

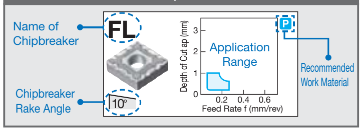
A "<" next to the corner radius RE indicates a negative tolerance.

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

80° Diamond type Positive Inserts

CC 80°Diamond type 7°Pos. With Hole





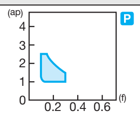
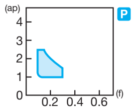
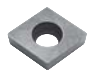
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◐ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✕ : Interrupted Cutting 2nd Recommendation

Insert
B
Negative
Positive
C
D
R
S
T
V
W
Ceramic Solid CBN

CC■■0802●●

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

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

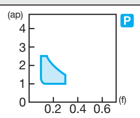
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC  6°		CCMT 080204N-SC	0.4																		—						—		—	—	—	—	—	—							—
Light Cutting	SC  6°		CCGT 080201MN-SC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									●			●	●	—	—	—	—	—	—	
			080202MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									●			●	●	—	—	—	—	—	—	
Light Cutting			CCGW 080200	0	—	—	—	—	—	—	—	—	—	—	—	—																										
			080201	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										

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

CC■■0803●●

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

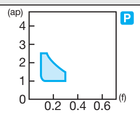
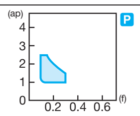
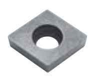
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC  6°		CCMT 080304N-SC	0.4			●			●												—						—		—	—	—	—	—	—							—

CC■■0903●●

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

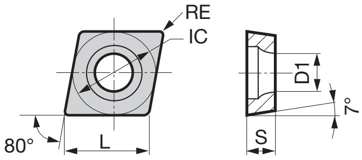
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC  6°		CCMT 090308N-SC	0.8			●			●												—						—		—	—	—	—	—	—			●				—
Light Cutting	SC  6°		CCGT 090301MN-SC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									●			●	●	—	—	—	—	—	—	
			090302MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									●			●	●	—	—	—	—	—	—	
Light Cutting			CCGW 090300	0	—	—	—	—	—	—	—	—	—	—	—	—																										
			090301	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										

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

80° Diamond type Positive Inserts

CC — 80°Diamond type 7°Pos. With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

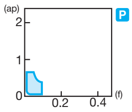
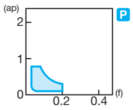
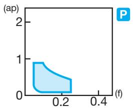
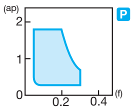
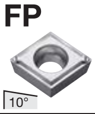
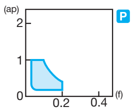
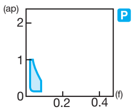
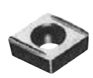
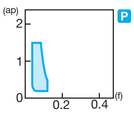
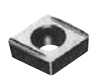
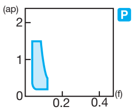
CC■■09T3●●

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

SUMIBORON (CBN) Inserts ☞ L47 on
SUMIDIA (PCD) Inserts ☞ M11
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C13, D13, D17, D22, D23
Applicable Boring Bars ☞ E12, E18 to E20

Legend: ●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation ◐: General Machining 1st Recommendation ◠: General Machining 2nd Recommendation ✖: Interrupted Cutting 1st Recommendation ✧: Interrupted Cutting 2nd Recommendation

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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FF  15°	 P	CCGT 09T301MN-FF New	< 0.1	—	—	—	—	—	—	—	—	—	—								—		●	●			●														—
			09T302MN-FF New	< 0.2	—	—	—	—	—	—	—	—	—	—								—		●	●			●														—
			09T304MN-FF New	< 0.4	—	—	—	—	—	—	—	—	—	—								—		●	●			●														—
Finishing	FB  20°	 P	CCMT 09T302N-FB	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
			09T304N-FB	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
			09T308N-FB	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
	LU  15°	 P	CCMT 09T302N-LU	0.2																		—						—		—												
			09T304N-LU	0.4	●	●	●		●	●			●	●		●						—						—	●	—	●	●	▲	●	●							
			09T308N-LU	0.8	●	●	●		●	●			●	●		●						—						—	●	—	●	●	▲	●	●							
	LUW  10° →B131 Wiper	 P	CCMT 09T304N-LUW	0.4	●	●	●		●	●						●						—						—		—	●	●	▲		●							
			09T308N-LUW	0.8	●	●	●		●	●						●						—						—		—	●	●	▲		●							
	FP  10°	 P	CCMT 09T302N-FP	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—					●	—	—	—	—	—	—	
			09T304N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—					●	—	—	—	—	—	—	
	FC  15°	 P	CCGT 09T301MN-FC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●	—	—	—	—	—	—	
			09T302MN-FC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●	—	—	—	—	—	—	
			09T304MN-FC	< 0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●	—	—	—	—	—	—	
	FX  15°	 P	CCGT 09T3003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●					●	●							
			09T3003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●					●	●							
			09T301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●		●			●	●							
			09T301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●		●			●	●							
			09T302R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●		●			●	●							
			09T302L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●		●			●	●							
			09T304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●													
			09T304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●													
			09T308R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●													
			09T308L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●													
	FX  15°	 P	CCET 09T3003R-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T3003L-FX	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T301R-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T301L-FX	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
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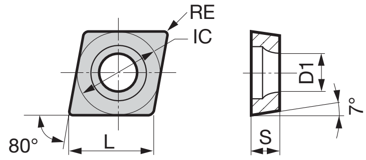
			09T304R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T304L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												

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

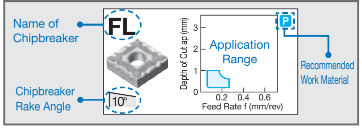
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

80° Diamond type Positive Inserts

CC 80°Diamond type 7°Pos. With Hole



Information in "Shape" column



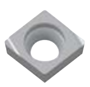
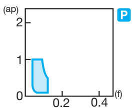
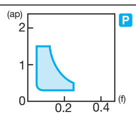
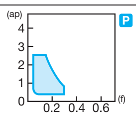
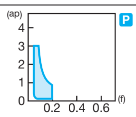
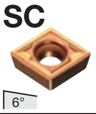
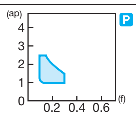
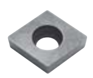
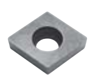
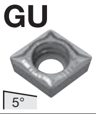
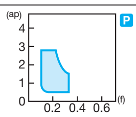
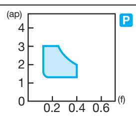
Legend: ●: Continuous Cutting 1st Recommendation / ○: Continuous Cutting 2nd Recommendation; ◐: General Machining 1st Recommendation / ◔: General Machining 2nd Recommendation; ✖: Interrupted Cutting 1st Recommendation / ✣: Interrupted Cutting 2nd Recommendation

CC■■09T3●●

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

SUMIBORON (CBN) Inserts ☞ L47 on
SUMIDIA (PCD) Inserts ☞ M11
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C13, D13, D17, D22, D23
Applicable Boring Bars ☞ E12, E18 to E20

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

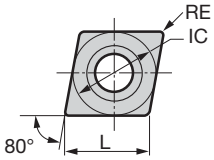
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
					CVD									PVD	CVD							PVD									PVD											
Finishing	FY  15°		CCET 09T3003R-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T3003L-FY	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T3008R-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			09T3008L-FY	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			09T301R-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●				●	●							
			09T301L-FY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●				●	●							
			09T3018R-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			09T3018L-FY	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
			09T302R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●				●	●							
			09T302L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●				●	●							
			09T304R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
			09T304L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												
Light Cutting	LB  15°		CCMT 09T302N-LB	0.2		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			09T304N-LB	0.4		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			09T308N-LB	0.8		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
	SU  8°		CCMT 09T302N-SU	0.2	●	●	●	●		●	●	●	●	●	▲	●						—	●	●	●			—	●	—	●	●	▲	●	●							
			09T304N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●		●				—	●	●	●			—	●	—	●	●	▲	●	●							
			09T308N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●		●				—	●	●	●			—	●	—	●	●		●	●							
	SI  15°		CCGT 09T301MN-SI	< 0.1	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●		●	●							
			09T302MN-SI	< 0.2	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●		●	●							
			09T304MN-SI	< 0.4	—	—	—	—	—	—	—	—	—	—	▲	●						—		●	●	●	●	●	●		●	●		●	●							
	SC  6°		CCGT 09T3003N-SC	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●				●	●							
			CCGT 09T301MN-SC	< 0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
			09T302MN-SC	< 0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						●	●	●	●	●		●	●	—	—	—	—	—	—	
			CCMW 09T304	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			09T308	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			CCGW 09T300	0	—	—	—	—	—	—	—	—	—	—	—	—																										
			09T301	0.1	—	—	—	—	—	—	—	—	—	—	—	—																										
			09T304 New	0.4	—	—	—	—	—	—	—	—	—	—	—	—																										●
			09T308 New	0.8	—	—	—	—	—	—	—	—	—	—	—	—																										●
Light to Medium Cutting	GU  5°		CCMT 09T304N-GU	0.4	●	●	●	●				●	●	●								—						—		—	●	●			●							
			09T308N-GU	0.8	●	●	●	●				●	●	●								—						—		—	●	●			●							
	MU  0°		CCMT 09T304N-MU	0.4	●	●	●		●	●		●	●			●	●	●	●	▲	▲	—									—	—	—	—	—							—
			09T308N-MU	0.8	●	●	●	●	●	●	●	●	●			●	●	●	●	▲	▲	—									—	—	—	—	—							—

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

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

80° Diamond type Positive Inserts

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



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

CC■■09T3●●

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

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

SUMIBORON (CBN) Inserts L47 on
SUMIDIA (PCD) Inserts M11
SUMIDIA BINDERLESS Inserts M28
Applicable External Holders C13, D13, D17, D22, D23
Applicable Boring Bars E12, E18 to E20

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

CC■■1204●●

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

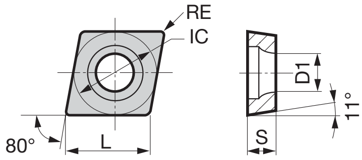
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

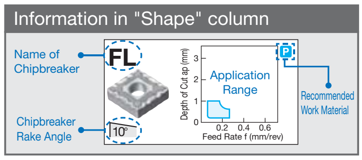
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FP**	(ap) 2 1 0 0.2 0.4 (f) P	**CCMT 120404N-FP**	0.4																														●								
	10°		**120408N-FP**	0.8																														●								
Light Cutting	**SU**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**CCMT 120404N-SU**	0.4	●	●	●	●	●	●	●											—	●	●	●						—	—	—	—								—
	8°		**120408N-SU**	0.8	●	●	●	●	●	●	●											—	●	●	●						—	—	—	—								—
	SC	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**CCMT 120408N-SC**	0.8			●			●												—									—	—	—	—			●				—
	6°																																									
Light to Medium Cutting	**GU**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**CCMT 120408N-GU**	0.8	●	●	●	●														—									—	—	—	—								—
	5°																																									

80° Diamond type Positive Inserts

CP

80° Diamond type
11° Pos.
With Hole





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

CP■■0602●●

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

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

Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
					CVD									PVD	CVD							PVD									PVD											
Finishing	FX 15°		CPGT 060204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
Light Cutting	US 10°		CPMT 060204N-US	0.4												●						—						—		—	—	—	—	—	—			●	●			—

CP■■0802●●

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

SUMIBORON (CBN) Inserts ☞L52
SUMIDIA (PCD) Inserts ☞M11
Applicable Boring Bars ☞E21, E22

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

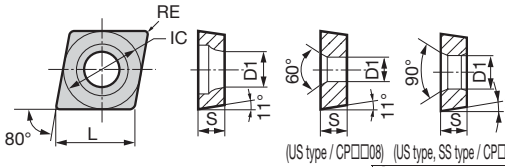
Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
					Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
					CVD									PVD	CVD							PVD									PVD											
Finishing	FB 20°		CPMT 080204N-FB	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	●	●	▲	●	●	—	—	—	—	—	—	
Finishing	LU 15°		CPMT 080204N-LU	0.4	●	●	●			●												—						—		—	●	●	▲	●	●							
Finishing to Light Cutting	SD 0°		CPGT 080202N-SD	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●								●	●							
			080204N-SD	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●					●	●	▲	●	●				●			
			080208N-SD	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●					●	●		●	●							
Light Cutting	LB 15°		CPMT 080204N-LB	0.4		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
Light Cutting	SU 8°		CPMT 080204N-SU	0.4	●	●	●	●	●	●	●				▲	●						—	●	●	●			—		—	●	●		●	●							
			080208N-SU	0.8	●	●	●	●	●	●	●				▲	●						—	●	●	●			—		—	●	●	▲	●	●							
Light Cutting	SS 5° *1		CPMT 080208N-SS	0.8												●						—						—		—	—	—	—	—	—			●				—
Light Cutting			CPMW 080204	0.4													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			080208	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Light to Medium Cutting	MU 0°		CPMT 080204N-MU	0.4	●	●	●		●	●						●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			080208N-MU	0.8	●	●	●		●	●						●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—

*1: Hole Dia. D1=4.8.

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

80° Diamond type Positive Inserts

CP 80° Diamond type / 11° Pos. / With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

CP■■0803●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	**US** 10°		**CPMT 080308N-US**	0.8												●																						●	●				

CP■■0903●●

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

SUMIBORON (CBN) Inserts ☞ L53
SUMIDIA (PCD) Inserts ☞ M11
Applicable Boring Bars ☞ E12, E21, E22

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

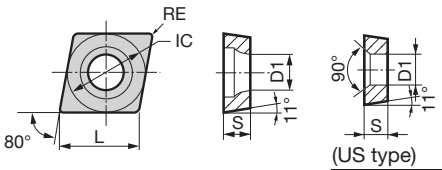
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB** 20°		**CPMT 090304N-FB**	0.4																									●												
			090308N-FB	0.8																									●												
	LU 15°		**CPMT 090304N-LU**	0.4	●	●	●		●	●		●	●		●	●														●	●	▲	●	●							
			090308N-LU	0.8	●	●	●		●	●		●	●		●	●														●	●	▲	●	●							
	LUW 10° →B131 Wiper		**CPMT 090304N-LUW**	0.4	●	●	●		●	●						●														●	●	▲		●							
			090308N-LUW	0.8	●	●	●		●	●						●														●	●	▲		●							
Finishing to Light Cutting	**SD** 0°		**CPGT 090302N-SD**	0.2																			●	●	●									●	●							
			090304N-SD	0.4																			●	●	●						●	●	▲	●	●			●			
			090308N-SD	0.8																			●	●	●						●	●		●	●						
Light Cutting	**LB** 15°		**CPMT 090304N-LB**	0.4		●	●	●		●	●	●	●	●																●	●	▲		●						
			090308N-LB	0.8		●	●	●		●	●	●	●	●																●	●	▲		●						
	SU 8°		**CPMT 090304N-SU**	0.4	●	●	●	●	●	●	●	●	●	▲	●								●	●	●					●	●	▲	●	●						
			090308N-SU	0.8	●	●	●	●	●	●	●	●	●	▲	●								●	●	●					●	●	▲	●	●						
	SS 5° *1		**CPMH 090308N-SS**	0.8											●																						●				
	US 10°		**CPMH 090304N-US**	0.4																																				
			090308N-US	0.8												●																						●				

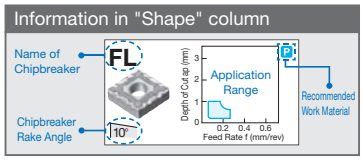
*1: Hole Dia. D1=4.8.

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

80° Diamond type Positive Inserts

CP 80°Diamond type 11°Pos. With Hole





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

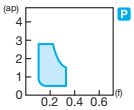
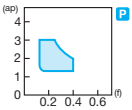
CP■■0903●●

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

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

SUMIBORON (CBN) Inserts ☞L53 SUMIDIA (PCD) Inserts ☞M11

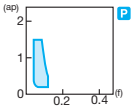
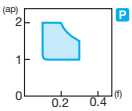
Applicable Boring Bars ☞E12, E21, E22

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting			CPMW 090304	0.4												●	●	●	▲	▲																							
			090308	0.8												●	●	●	▲	▲																							
Light to Medium Cutting	GU 5°		CPMT 090304N-GU	0.4	●	●	●	●				●	●	●																	●	●			●							
			090308N-GU	0.8	●	●	●	●				●	●	●																	●	●			●							
	MU 0°		CPMT 090304N-MU	0.4	●	●	●		●	●		●	●			●	●	●	●	▲	▲																						
			090308N-MU	0.8	●	●	●		●	●		●	●			●	●	●	●	▲	▲																						

CP■■09T3●●

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

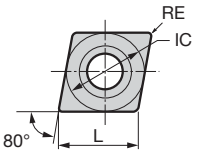
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

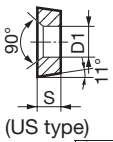
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX 15°		CPGT 09T308L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Light Cutting	US 10°		CPMT 09T308N-US	0.8	—	—	—	—	—	—	—	—	—	—	—	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●	—	—	—	—

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

80° Diamond type Positive Inserts

CP 80° Diamond type / 11° Pos. / With Hole





(US type)

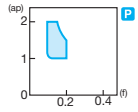
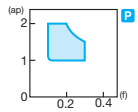
Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

CP■■1204●●

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

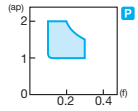
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	SD		CPGT 120402N-SD	0.2																			●	●	●									●	●							
	0°		120404N-SD	0.4																			●	●	●						●			●	●			●				
			120408N-SD	0.8																			●	●	●									●	●							
Light Cutting	US		CPMH 120408N-US	0.8												●						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●	●				
	10°																																									

CP■■1604●●

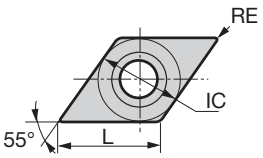
Dimensions (mm)	Cutting Edge Length L	16.1	Thickness S	4.76
	Inscribed Circle IC	15.875	Hole Dia. D1	6.5

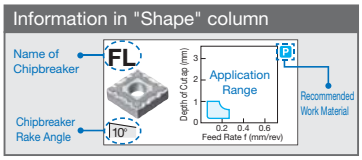
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US		CPMH 160408N-US	0.8												●						—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●					
	10°																																									

55° Diamond type Positive Inserts

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





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

DC■■0702●●

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

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

SUMIBORON (CBN) Inserts L62, L63 | SUMIDIA (PCD) Inserts M12 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C19, D14, D18, D19, D24, D25 | Applicable Boring Bars E16, E26 to E30

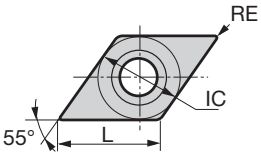
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	CVD AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	Coated Cermet PVD AC530U	AC Z150	Cermet T1500Z	T2500Z	T3000Z	T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FF**		DCGT 070201MN-FF NEW	< 0.1																				●	●			●															
	15°		070202MN-FF NEW	< 0.2																				●	●			●															
			070204MN-FF NEW	< 0.4																				●	●			●															
Finishing	**FB**		DCMT 070202N-FB	0.2																									●		●	●	▲	●	●							
	20°		070204N-FB	0.4																									●		●	●	▲	●	●							
			070208N-FB	0.8																									●		●	●	▲	●	●							
	LU		DCMT 070202N-LU	0.2	●	●	●		●	●			●	●		●													●		●	●	▲	●	●							
	15°		070204N-LU	0.4	●	●	●		●	●			●	●		●													●		●	●	▲	●	●							
	FP		DCMT 070202N-FP	0.2																															●								
	10°		070204N-FP	0.4																															●								
	FC		DCGT 070201MN-FC	< 0.1																				●	●			●	●	●				●	●							
	15°		070202MN-FC	< 0.2																				●	●			●	●	●				●	●							
			070204MN-FC	< 0.4																				●	●			●	●	●				●	●							
	FX		DCGT 0702003R-FX	0.03																				●	●			●	●	●				●	●							
	15°		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		DCET 0702003R-FX	0.03																								●			●												
	15°		0702003L-FX	0.03																								●			●												
			0702008R-FX	0.08																								●			●												
			0702008L-FX	0.08																								●			●												
			070201R-FX	0.1																								●			●												
			070201L-FX	0.1																								●			●												
			0702018R-FX	0.18																								●			●												
			0702018L-FX	0.18																								●			●												
			070204R-FX	0.4																								●			●												
			070204L-FX	0.4																								●			●												
	FYS		DCGT 0702003R-FYS	0.03																				●	●			●															
	15°		0702003L-FYS	0.03																				●	●			●															
			070201R-FYS	0.1																				●	●			●															
			070201L-FYS	0.1																				●	●			●															
			070202R-FYS	0.2																				●	●			●															
			070202L-FYS	0.2																				●	●			●															
			070204R-FYS	0.4																				●	●			●															
			070204L-FYS	0.4																				●	●			●															

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

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

55° Diamond type Positive Inserts

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



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

DC■■0702●●

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

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

SUMIBORON (CBN) Inserts L62, L63 | SUMIDIA (PCD) Inserts M12 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C19, D14, D18, D19, D24, D25 | Applicable Boring Bars E16, E26 to E30

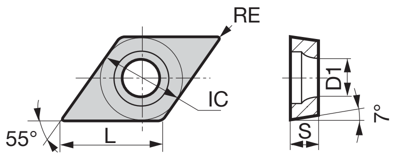
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FYS**		DCET 0702003R-FYS	0.03																								●															
			0702003L-FYS	0.03																								●															
			070201R-FYS	0.1																								●															
			070201L-FYS	0.1																								●															
			070202R-FYS	0.2																								●															
			070202L-FYS	0.2																								●															
			070204R-FYS	0.4																								●															
			070204L-FYS	0.4																								●															
	FY		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																			●	●			●	●	●						●								
	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 to 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	0.2		●	●	●		●	●	●	●	●																		●	●	▲		●						
			070204N-LB	0.4		●	●	●		●	●	●	●	●																		●	●	▲		●						
			070208N-LB	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																								●	●	●	●	●			●	●						

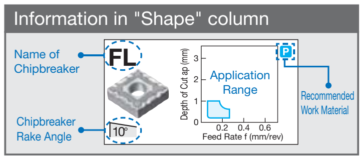
A "<" next to the corner radius RE indicates a negative tolerance.

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

55° Diamond type Positive Inserts

DC 55°Diamond type 7°Pos. With Hole





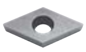
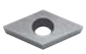
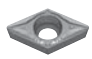
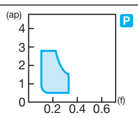
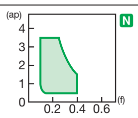
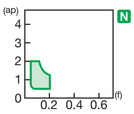
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◕ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
✚ : Interrupted Cutting 1st Recommendation
✣ : Interrupted Cutting 2nd Recommendation

DC■■0702●●

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

SUMIBORON (CBN) Inserts ☞ L62, L63
SUMIDIA (PCD) Inserts ☞ M12
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C19, D14, D18, D19, D24, D25
Applicable Boring Bars ☞ E16, E26 to E30

Coated Carbide

Application	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150
					CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	PVD	CVD	CVD	CVD	CVD	CVD	CVD	CVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD
Recommended Application			P Steel		●	◔	◕	✚	○	◔	✣		◔			◔									✣		✣	◕		
Recommended Application			M Stainless Steel					✣			✣	●	◕	✚	○	◔									✣		✣	◕	✣	
Recommended Application			K Cast Iron				✣			✣							●	◕	✚	○	◔			✣		✣		◕		
Recommended Application			N Non-Ferrous Metal																											
Recommended Application			S Exotic Alloy																				●	◕	✚	◔	✣	✣		
Recommended Application			H Hardened Steel																			●								
Light Cutting			DCMW 070204	0.4													●	●	●	▲	▲	—						—		—
Light Cutting			070208	0.8													●	●	●	▲	▲	—						—		—
Light Cutting			DCGW 070200	0	—	—	—	—	—	—	—	—	—	—	—	—														
Light Cutting			070201	0.1	—	—	—	—	—	—	—	—	—	—	—	—														
Light Cutting			070202	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●								
Light Cutting			070204	0.4	—	—	—	—	—	—	—	—	—	—	—	—						●								
Light Cutting			070208	0.8	—	—	—	—	—	—	—	—	—	—	—	—						●								
Light to Medium Cutting	GU  5°		DCMT 070204N-GU	0.4	●	●	●	●				●	●	●								—						—		—
Light to Medium Cutting			070208N-GU	0.8	●	●	●	●				●	●	●								—						—		—
For Aluminum	AG  20°		DCGT 070202N-AG	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum			070204N-AG	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum	AY  15°		DCGT 070201R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum			070201L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum			070202R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum			070202L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum			070204R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum			070204L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

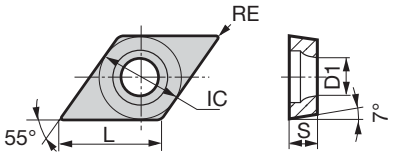
Coated Cermet / Cermet / Cemented Carbide

Cat. No.	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Cermet (PVD)	Coated Cermet (PVD)	Coated Cermet (PVD)	Cermet	Cermet	Cemented Carbide	Cemented Carbide	Cemented Carbide	Cemented Carbide	Cemented Carbide	Cemented Carbide	Cemented Carbide
P Steel	◕	✚	✣	●	◕							
M Stainless Steel												
K Cast Iron				●								
N Non-Ferrous Metal												◕
S Exotic Alloy												
H Hardened Steel												
DCMW 070204	—	—	—	—	—							—
070208	—	—	—	—	—							—
DCGW 070200												
070201												
070202												
070204												●
070208												●
DCMT 070204N-GU	●	●			●							
070208N-GU	●	●			●							
DCGT 070202N-AG	—	—	—	—	—	—	—	—	—	—	—	●
070204N-AG	—	—	—	—	—	—	—	—	—	—	—	●
DCGT 070201R-AY	—	—	—	—	—	—	—	—	—	—	—	●
070201L-AY	—	—	—	—	—	—	—	—	—	—	—	●
070202R-AY	—	—	—	—	—	—	—	—	—	—	—	●
070202L-AY	—	—	—	—	—	—	—	—	—	—	—	●
070204R-AY	—	—	—	—	—	—	—	—	—	—	—	●
070204L-AY	—	—	—	—	—	—	—	—	—	—	—	●

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

55° Diamond type Positive Inserts

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



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

DC■■0902●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC-Z150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	DCGT 090201MN-SC	< 0.1																														●	●								
	6°		090202MN-SC	< 0.2																														●	●								
			DCGW 090200 090201	0 0.1																																								

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

DC■■1103●●

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

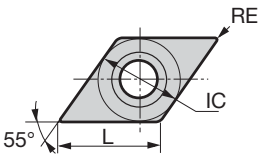
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

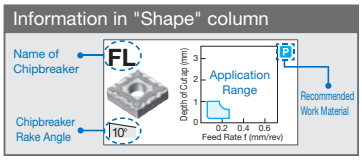
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC-Z150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	DCGT 110301MN-SC	< 0.1																														●	●								
	6°		110302MN-SC	< 0.2																														●	●								
			DCGW 110300 110301	0 0.1																																								

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

55° Diamond type Positive Inserts

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





Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

DC■■11T3●●

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

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

SUMIBORON (CBN) Inserts L64 on | SUMIDIA (PCD) Inserts M13 | SUMIDIA BINDERLESS Inserts M28
Applicable External Holders C19, D14, D18, D19, D24, D25 | Applicable Boring Bars E13, E26 to E30

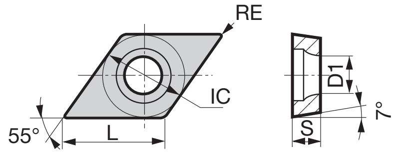
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	PVD: AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC5510U	AC520U	AC1030U	Coated Cermet: AC530U	AC Z150	PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	Cemented Carbide: T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FF		DCGT 11T301MN-FF New	< 0.1																				●	●			●															
			11T302MN-FF New	< 0.2																				●	●			●															
			11T304MN-FF New	< 0.4																				●	●			●															
	FB		DCMT 11T302N-FB	0.2																								●		●	●	▲	●	●								
			11T304N-FB	0.4																								●		●	●	▲	●	●								
			11T308N-FB	0.8																								●		●	●	▲	●	●								
	LU		DCMT 11T302N-LU	0.2	●	●	●			●				●														●		●	●	▲	●	●								
			11T304N-LU	0.4	●	●	●		●	●			●	●		●												●		●	●	▲	●	●								
			11T308N-LU	0.8	●	●	●		●	●			●	●		●												●		●	●	▲	●	●								
	FP		DCMT 11T308N-FP	0.8																														●								
	FC		DCGT 11T301MN-FC	< 0.1																				●	●			●	●	●					●	●						
			11T302MN-FC	< 0.2																				●	●			●	●	●					●	●						
			11T304MN-FC	< 0.4																				●	●			●	●	●					●	●						
Finishing	FX		DCGT 11T3003R-FX	0.03																				●	●			●	●	●					●	●						
			11T3003L-FX	0.03																				●	●			●	●	●					●	●						
			11T301R-FX	0.1																				●	●			●	●	●					●	●						
			11T301L-FX	0.1																				●	●			●	●	●					●	●						
			11T302R-FX	0.2																				●	●			●	●	●			●		●	●						
			11T302L-FX	0.2																				●	●			●	●	●			●		●	●						
			11T304R-FX	0.4																				●	●			●		●						●						
			11T304L-FX	0.4																				●	●			●		●						●						
	FX		DCET 11T3003R-FX	0.03																								●			●											
			11T3003L-FX	0.03																								●			●											
			11T3008R-FX	0.08																								●			●											
			11T3008L-FX	0.08																								●			●											
			11T301R-FX	0.1																								●			●											
			11T301L-FX	0.1																								●			●											
			11T3018R-FX	0.18																								●			●											
			11T3018L-FX	0.18																								●			●											
			11T304R-FX	0.4																								●			●											
			11T304L-FX	0.4																								●			●											
	FYS		DCGT 11T3003R-FYS	0.03																					●	●			●													
			11T3003L-FYS	0.03																					●	●			●													
			11T301R-FYS	0.1																					●	●			●													
			11T301L-FYS	0.1																					●	●			●													
			11T302R-FYS	0.2																					●	●			●													
			11T302L-FYS	0.2																					●	●			●													
			11T304R-FYS	0.4																					●	●			●													
			11T304L-FYS	0.4																					●	●			●													

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

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

55° Diamond type Positive Inserts

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



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

DC■■11T3●●

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

SUMIBORON (CBN) Inserts ☞ L64 on SUMIDIA (PCD) Inserts ☞ M13 SUMIDIA BINDERLESS Inserts ☞ M28
Applicable External Holders ☞ C19, D14, D18, D19, D24, D25 Applicable Boring Bars ☞ E13, E26 to E30

Application Range	Shape	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Grade type				Coated Carbide CVD									Coated Carbide PVD	Coated Carbide CVD							Coated Carbide PVD									Coated Cermet PVD			Cermet		Cemented Carbide						
Recommended Application: P Steel				●	◔	◕	✖	○	◔	✧		◔			◔									✧		✧	◕			◕	✖	✧	●	◕							
M Stainless Steel							✧			✧	●	◕	✖	○	◔									✧		✧	◕	✧													
K Cast Iron						✧			✧							●	◕	✖	○	◔			✧		✧		◕						●								
N Non-Ferrous Metal																																									◕
S Exotic Alloy																						●	◕	✖	◔	✧	✧														
H Hardened Steel																					●																				
Finishing	FYS (15°)	DCET 11T3003R-FYS	0.03																								●														
Finishing	FYS	11T3003L-FYS	0.03																								●														
Finishing	FYS	11T301R-FYS	0.1																								●														
Finishing	FYS	11T301L-FYS	0.1																								●														
Finishing	FYS	11T302R-FYS	0.2																								●														
Finishing	FYS	11T302L-FYS	0.2																								●														
Finishing	FYS	11T304R-FYS	0.4																								●														
Finishing	FYS	11T304L-FYS	0.4																								●														
Finishing	FY (15°)	DCGT 11T3003R-FY	0.03																				●	●		●	●	●													
Finishing	FY	11T3003L-FY	0.03																				●	●		●	●	●													
Finishing	FY	11T301R-FY	0.1																				●	●		●	●	●					●	●							
Finishing	FY	11T301L-FY	0.1																				●	●		●	●	●					●	●							
Finishing	FY	11T302R-FY	0.2																				●	●		●	●	●					●	●							
Finishing	FY	11T302L-FY	0.2																				●	●		●	●	●					●	●							
Finishing	FY	11T304R-FY	0.4																				●	●		●	●	●					●	●							
Finishing	FY	11T304L-FY	0.4																				●	●		●	●	●					●	●							
Finishing	FY (15°)	DCET 11T3003R-FY	0.03																								●		●												
Finishing	FY	11T3003L-FY	0.03																								●		●												
Finishing	FY	11T3008R-FY	0.08																								●		●												
Finishing	FY	11T3008L-FY	0.08																								●		●												
Finishing	FY	11T301R-FY	0.1																								●		●												
Finishing	FY	11T301L-FY	0.1																								●		●												
Finishing	FY	11T3018R-FY	0.18																								●		●												
Finishing	FY	11T3018L-FY	0.18																								●		●												
Finishing	FY	11T302R-FY	0.2																																						
Finishing	FY	11T302L-FY	0.2																																						
Finishing	FY	11T304R-FY	0.4																								●		●												
Finishing	FY	11T304L-FY	0.4																								●		●												
Finishing to Light Cutting	SD (0°)	DCGT 11T304R-SD	0.4																											●			●	●							
Finishing to Light Cutting	SD	11T304L-SD	0.4																											●			●	●							
Finishing to Light Cutting	SD	11T308R-SD	0.8																											●			●	●							
Finishing to Light Cutting	SD	11T308L-SD	0.8																											●			●	●							
Light Cutting	LB (15°)	DCMT 11T302N-LB	0.2		●	●	●		●	●	●	●	●																	●	●	▲		●							
Light Cutting	LB	11T304N-LB	0.4		●	●	●		●	●	●	●	●																	●	●	▲		●							
Light Cutting	LB	11T308N-LB	0.8		●	●	●		●	●	●	●	●																	●	●	▲		●							
Light Cutting	SU (8°)	DCMT 11T302N-SU	0.2	●	●	●	●		●	●	●	●	●	▲	●							●	●	●				●		●	●	▲	●	●							
Light Cutting	SU	11T304N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●							●	●	●				●		●	●	▲	●	●							
Light Cutting	SU	11T308N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●							●	●	●				●		●	●	▲	●	●							
Light Cutting	SI (15°)	DCGT 11T301MN-SI	< 0.1											▲	●								●	●	●	●	●	●		●	●		●	●							
Light Cutting	SI	11T302MN-SI	< 0.2											▲	●								●	●	●	●	●	●		●	●		●	●							
Light Cutting	SI	11T304MN-SI	< 0.4											▲	●								●	●	●	●	●	●		●	●		●	●							
Light Cutting	SI	11T308MN-SI	< 0.8											▲	●								●	●	●	●		●		●	●		●	●							
Light Cutting	SC (6°)	DCGT 11T3003N-SC	0.03																								●	●	●				●	●							
Light Cutting	SC	DCGT 11T301MN-SC	< 0.1																								●	●	●	●	●		●	●							
Light Cutting	SC	11T302MN-SC	< 0.2																								●	●	●	●	●		●	●							
Light Cutting	SC	11T304MN-SC	< 0.4																								●	●	●	●	●		●	●							
Light Cutting	SC	11T308MN-SC	< 0.8																								●	●		●	●		●	●							

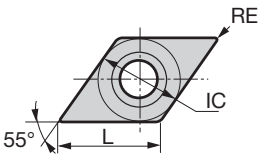
A "<" next to the corner radius RE indicates a negative tolerance.

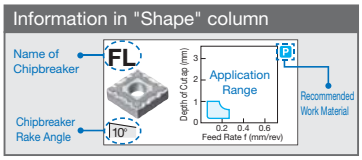
▲ mark: To be replaced by a new product, made to order or discontinued (please confirm stock availability)

Insert | B | Negative | Positive | C | D | R | S | T | V | W | Ceramic Solid CBN

55° Diamond type Positive Inserts

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





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

DC■■11T3●●

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

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

SUMIBORON (CBN) Inserts L64 on | SUMIDIA (PCD) Inserts M13 | SUMIDIA BINDERLESS Inserts M28

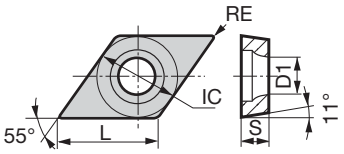
Applicable External Holders C19, D14, D18, D19, D24, D25 | Applicable Boring Bars E13, E26 to E30

				Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	Coated Carbide (CVD) AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting			DCMW 11T304	0.4													●	●	●	▲	▲																					
			11T308	0.8													●	●	●	▲	▲																					
			DCGW 11T300	0																		●																				
			11T301	0.1																		●																				
			11T302	0.2																		●																				
			11T304	0.4																		●																				
			11T308	0.8																		●																				
Light to Medium Cutting	GU 5°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	DCMT 11T302N-GU	0.2	●	●	●	●				●	●	●			●	●														●	●		●								
			11T304N-GU	0.4	●	●	●	●				●	●	●			●	●														●	●		●								
			11T308N-GU	0.8	●	●	●	●				●	●	●			●	●														●	●		●								
			11T312N-GU	1.2			●						●																													
	MU 0°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	DCMT 11T304N-MU	0.4	●	●	●		●	●		●	●				●	●	●	▲	▲																				
			11T308N-MU	0.8	●	●	●	●	●	●	●	●	●				●	●	●	▲	▲																				
For Aluminum	AG 20°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	DCGT 11T302N-AG	0.2																																					●
			11T304N-AG	0.4																																					●
			11T308N-AG	0.8																																					●
	AY 15°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	DCGT 11T301R-AY	0.1																																					●
			11T301L-AY	0.1																																					●
			11T302R-AY	0.2																																					●
			11T302L-AY	0.2																																					●
			11T304R-AY	0.4																																					●
			11T304L-AY	0.4																																					●

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

55° Diamond type Positive Inserts

DP 55° Diamond type 11° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

DP■■0702●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	(PVD) AC6030M	AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		DPGT 0702003R-FX	0.03																																							
			0702003L-FX	0.03																																							
			070201R-FX	0.1																																							
			070201L-FX	0.1																																							
			070202R-FX	0.2																																							
			070202L-FX	0.2																																							
	FY		DPGT 0702003R-FY	0.03																																							
			0702003L-FY	0.03																																							
			070201R-FY	0.1																																							
			070201L-FY	0.1																																							
			070202R-FY	0.2																																							
			070202L-FY	0.2																																							

DP■■11T3●●

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

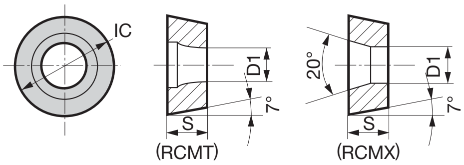
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

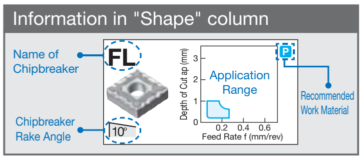
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	(PVD) AC6030M	AC6040M	AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		DPGT 11T3003R-FX	0.03																																							
			11T3003L-FX	0.03																																							
			11T301R-FX	0.1																																							
			11T301L-FX	0.1																																							
			11T302R-FX	0.2																																							
			11T302L-FX	0.2																																							
	FY		DPGT 11T3003R-FY	0.03																																							
			11T3003L-FY	0.03																																							
			11T301R-FY	0.1																																							
			11T301L-FY	0.1																																							
			11T302R-FY	0.2																																							
			11T302L-FY	0.2																																							

Round type Positive Inserts

Insert
B
Negative
Positive
C
D
R
S
T
V
W
Ceramic Solid CBN

RC Round type 7° Pos. With Hole





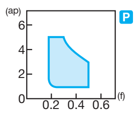
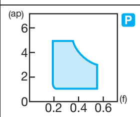
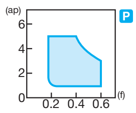
● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◓ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✚ : Interrupted Cutting 2nd Recommendation

RC■■●●●●●●

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

Applicable External Holders ☞ C20

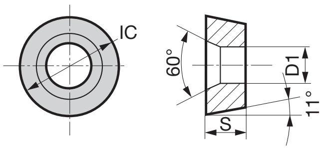
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◔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

	Shape	Application Range	Cat. No.	IC	S	D1	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
							Coated Carbide																										Coated Cermet			Cermet		Cemented Carbide						
							CVD									PVD	CVD							PVD									PVD											
Medium to Roughing	RX  -5°		RCMT 1003M0N-RX	10.0	3.18	4.4	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			1204M0N-RX	12.0	4.76	4.4	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			1606M0N-RX	16.0	6.35	5.0	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			2006M0N-RX	20.0	6.35	6.5	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			2507M0N-RX	25	7.94	7.6	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
	RH  -5°		RCMT 1204M0N-RH	12	4.76	4.4	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			1606M0N-RH	16.0	6.35	5.0	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
			2006M0N-RH	20	6.35	6.5	●	●	●	●	●	●	●					●						—						—		—	—	—	—	—	—							—
Roughing	RP  -15°		RCMX 1003M0N-RP	10.0	3.18	3.6	●	●	●	●	●	●	●					●	●	●	●	▲	▲	—						—		—	—	—	—	—	—			●				—
			1204M0N-RP	12	4.76	4.2	●	●	●	●	●	●	●					●	●	●	●	▲	▲	—	●	●	●	●		—		—	—	—	—	—	—			●				—
			1606M0N-RP	16	6.35	5.2	●	●	●	●	●	●	●					●	●	●	●	▲	▲	—						—		—	—	—	—	—	—			●				—
			2006M0N-RP	20.0	6.35	6.5	●	●	●	●	●	●	●					●						—	●	●	●	●		—		—	—	—	—	—	—			●				—
			2507M0N-RP	25	7.94	7.2	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
			3209M0N-RP	32	9.52	9.5	●	●	●		●	●												—						—		—	—	—	—	—	—							—

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

Round type Positive Inserts

RP Round type 11° Pos. With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

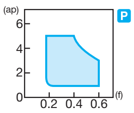
RP■■●●●●●●

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

SUMIDIA (PCD) Inserts ☞ M26

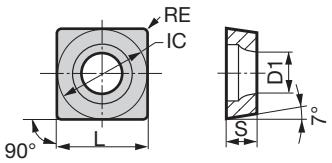
Recommended Application

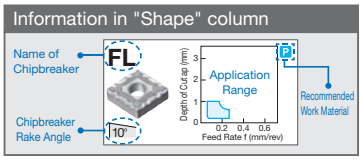
Grade	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous Metal	S Exotic Alloy	H Hardened Steel
Coated Carbide (CVD) AC8015P	●					
AC8020P	◌					
AC8025P	◐		✧			
AC8035P	✖	✧				
AC810P	○					
AC820P	◌		✧			
AC830P	✧	✧				
Coated Carbide (PVD) AC6020M		●				
AC6030M	◌	◐				
AC6040M		✖				
AC610M		○	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

Application	Shape	Application Range	Cat. No.	IC	S	D1	Grades available (●)
Medium Cutting			RPGW 0803M0	8	3.18	3.3	AC5015S, AC5025S, AC510U, G10E
			1004M0	10	4.76	3.8	AC5015S, AC5025S, AC510U, G10E
			1204M0	12	4.76	4.3	AC5015S, AC5025S, AC510U, G10E
			1604M0	16.0	4.76	5.3	G10E
			2004M0	20.0	4.76	6.3	
			2406M0	24	6.35	7.3	
Roughing	RD  0°		RPGT 0803M0N-RD	8.0	3.18	3.3	ST20E
			1004M0N-RD	10	4.76	3.8	ST20E
			1204M0N-RD	12	4.76	4.3	ST20E
			1604M0N-RD	16.0	4.76	5.3	
			2004M0N-RD	20.0	4.76	6.3	
			2406M0N-RD	24	6.35	7.3	

Square type Positive Inserts

SC Square type 7° Pos. With Hole





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

SC■■0702●●

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

SUMIDIA (PCD) Inserts ☞M14
Applicable External Holders ☞D26

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	Coated Carbide (PVD) AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC6150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCMT 070204N-SC	0.4																		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCGT 070201MN-SC	< 0.1																		—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—	—	—
			070202MN-SC	< 0.2																		—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—	—	—
			SCGW 070200	0	—	—	—	—	—	—	—	—	—	—								—	—	—	—	—	—	—	—	—													
			070201	0.1	—	—	—	—	—	—	—	—	—	—								—	—	—	—	—	—	—	—	—													

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

SC■■0903●●

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

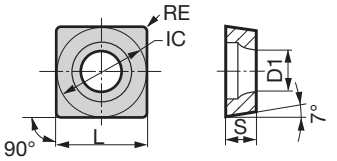
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	Coated Carbide (PVD) AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC6150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCMT 090308N-SC	0.8																		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	SC 6°	(ap) 4 3 2 1 0 P 0.2 0.4 0.6 (f)	SCGT 090301MN-SC	< 0.1																		—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—	—	—
			090302MN-SC	< 0.2																		—	—	—	—	—	—	●	●	—	—	—	—	●	●	—	—	—	—	—	—	—	—
			SCGW 090300	0	—	—	—	—	—	—	—	—	—	—								—	—	—	—	—	—	—	—	—													
			090301	0.1	—	—	—	—	—	—	—	—	—	—								—	—	—	—	—	—	—	—	—													

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

Square type Positive Inserts

SC Square type 7° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

SC■■09T3●●

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

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

Applicable External Holders D26 Applicable Boring Bars E38

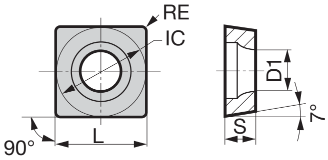
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB 20°		SCMT 09T304N-FB	0.4																									●		●	●	▲	●	●								
			09T308N-FB	0.8																									●		●	●	▲	●	●								
	LU 15°		SCMT 09T304N-LU	0.4	●	●	●		●	●			●	●		●															●	●	▲	●	●								
			09T308N-LU	0.8	●	●	●		●	●			●	●		●															●	●	▲	●	●								
	FP 10°		SCMT 09T304N-FP	0.4																														●								
			09T308N-FP	0.8																														●								
	FX 15°		SCGT 09T302R-FX	0.2																				●	●			●	●														
			09T302L-FX	0.2																				●	●			●	●														
			09T304R-FX	0.4																				●	●			●	●														
			09T304L-FX	0.4																				●	●			●	●														
Light Cutting	LB 15°		SCMT 09T304N-LB	0.4		●	●	●		●	●	●	●																		●	●	▲		●								
			09T308N-LB	0.8		●	●	●		●	●	●	●																		●	●	▲		●								
	SU 8°		SCMT 09T304N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●							●	●	●																		
			09T308N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●							●	●	●																		
	SC 6°		SCGT 09T301MN-SC	< 0.1																									●	●				●	●								
			09T302MN-SC	< 0.2																									●	●				●	●								
			SCMW 09T308	0.8													●	●	●	▲	▲																						
			SCGW 09T300	0																																							
			09T301	0.1																																							
Light to Medium Cutting	GU 5°		SCMT 09T304N-GU	0.4	●	●	●	●				●	●	●																												
			09T308N-GU	0.8	●	●	●	●				●	●	●																												
	MU 0°		SCMT 09T308N-MU	0.8	●	●	●		●	●		●	●			●	●	●	●	▲	▲																						

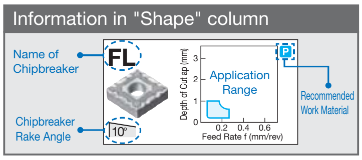
A "<" next to the corner radius RE indicates a negative tolerance.

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

Square type Positive Inserts

SC — Square type 7° Pos. With Hole





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

SC ■ ■ 1204 ● ●

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

Applicable Boring Bars ☞ E38

Recommended Application

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

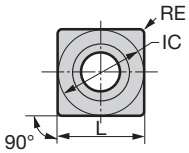
Coated Carbide: CVD (AC8015P–AC6030M), PVD (AC6040M), CVD (AC610M–AC415K), PVD (AC503U–ACZ150); Coated Cermet: PVD (T1500Z–T3000Z); Cermet (T1000A, T1500A); Cemented Carbide (ST10P–H1)

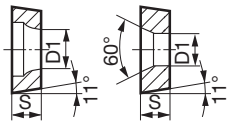
Application	Shape	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FP (10°)	SCMT 120404N-FP	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—					●	—	—	—	—	—	—	
Finishing	FP (10°)	120408N-FP	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—					●	—	—	—	—	—	—	
Finishing	FX (15°)	SCGT 120404R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●													
Finishing	FX (15°)	120404L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●			●	●													
Finishing	FX (15°)	120408R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
Finishing	FX (15°)	120408L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					
Light Cutting	SU (8°)	SCMT 120404N-SU	0.4	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Light Cutting	SU (8°)	120408N-SU	0.8	●	●	●	●	●	●	●											—						—		—	—	—	—	—	—							—
Light Cutting	SC (6°)	SCMT 120408N-SC	0.8																		—						—		—	—	—	—	—	—							—
Light Cutting		SCMW 120408	0.8													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Light Cutting		120412	1.2													●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Light to Medium Cutting	GU (5°)	SCMT 120408N-GU	0.8	●	●	●	●														—						—		—	—	—	—	—	—							—
Light to Medium Cutting	MU (0°)	SCMT 120408N-MU	0.8	●	●	●		●	●						●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
Light to Medium Cutting	MU (0°)	120412N-MU	1.2																		—						—		—	—	—	—	—	—							—

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

Square type Positive Inserts

SP Square type 11° Pos. With Hole





(USType, SSType to SP□□07)

Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

SP■■0602●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	Coated Carbide (PVD) AC6030M	AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	US 10°	(ap) 2 1 0 0.2 0.4 (f) P	SPMT 060204N-US	0.4												●						—						—			—			—				●					—

SP■■0702●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	Coated Carbide (PVD) AC6030M	AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SS 5°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	SPMT 070208N-SS	0.8			●									●		●				—						—			—			—				●					—

SP■■0703●●

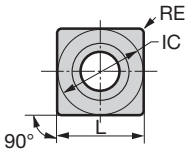
Dimensions (mm)	Cutting Edge Length L	7.94	Thickness S	3.18
	Inscribed Circle IC	7.94	Hole Dia. D1	3.4

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

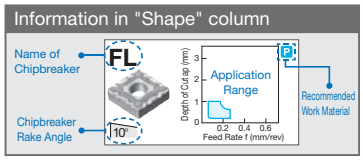
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	Coated Carbide (PVD) AC6030M	AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	SD 0°	(ap) 2 1 0 0.2 0.4 (f) P	SPGT 070304R-SD	0.4																																	●		●			
			070304L-SD	0.4																																	●		●			
			070308R-SD	0.8																																						
			070308L-SD	0.8																																						
Light Cutting	US 10°	(ap) 2 1 0 0.2 0.4 (f) P	SPMT 070308N-US	0.8			●									●		●				—						—			—			—				●					—
			SPGW 070304	0.4														●																						●			●
			070308	0.8														●																						●			●

Square type Positive Inserts

SP Square type 11° Pos. With Hole



(US type, SS type to SP□□07)



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

SP■■0903●●

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

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

SUMIDIA (PCD) Inserts ☞M14

Applicable Boring Bars ☞E36

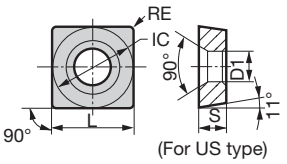
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		**SPMT 090304N-FB**	0.4																									●		●	●	▲	●	●							
	20°		**090308N-FB**	0.8																									●		●	●	▲	●	●							
	LU		**SPMT 090304N-LU**	0.4	●	●	●		●	●		●	●		●	●															●	▲	●	●							
	15°		**090308N-LU**	0.8	●	●	●		●	●		●	●		●	●															●	▲	●	●							
Finishing to Light Cutting	**SD**		**SPGT 090302R-SD**	0.2																											●			●	●							
			090302L-SD	0.2																											●			●	●							
			090304R-SD	0.4																											●			●	●				●			
			090304L-SD	0.4																											●	●	▲	●	●				●			
			090308R-SD	0.8																											●			●	●							
	0°		**090308L-SD**	0.8																											●	●	▲	●	●				●			
Light Cutting	**LB**		**SPMT 090304N-LB**	0.4		●	●	●		●	●	●	●	●			●														●	●	▲		●							
	15°		**090308N-LB**	0.8		●	●	●		●	●	●	●	●			●														●	●	▲		●							
	SS		**SPMH 090308N-SS**	0.8												●																					●						
	5° *1																																									
	US		**SPMH 090308N-US**	0.8												●																					●						
	10° *1																																									
			SPGW 090300	0																																						
			090304	0.4														●																					●			●
			090308 New	0.8														●																								●
Light to Medium Cutting	**SF**		**SPMT 090304N-SF**	0.4			●	●		●	●																														
	0° *2		**090308N-SF**	0.8			●	●		●	●																														

*1: Hole Dia. D1=4.4.
*2: Hole Dia. D1=3.3.

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

Square type Positive Inserts

SP Square type 11° Pos. With Hole

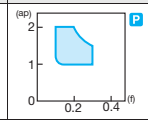


Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

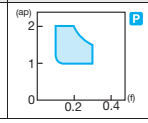
SP■■09T3●●

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

Recommended Application	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	CVD: AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel	US		SPMT 09T308N-US	0.8												●																											

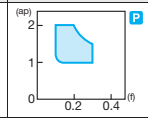
SP■■1204●●

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

Recommended Application	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	CVD: AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel	US		SPMH 120408N-US	0.8												●																											

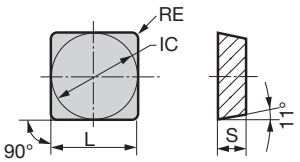
SP■■1504●●

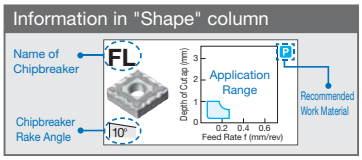
Dimensions (mm)	Cutting Edge Length L	15.875	Thickness S	4.76
	Inscribed Circle IC	15.875	Hole Dia. D1	6.5

Recommended Application	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	CVD: AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metal S Exotic Alloy H Hardened Steel	US		SPMH 150408N-US	0.8												●																											

Square type Positive Inserts

SP Square type 11° Pos. Without Hole





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

SP■■0702●●

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

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	(CVD) AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	W		SPGR 070204L-W	0.4																															●								
Light Cutting			SPGN 070204	0.4																																							●

SP■■0903●●

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

SUMIBORON (CBN) Inserts L78 SUMIDIA (PCD) Inserts M14
Ceramic Inserts B128
Applicable Boring Bars E37

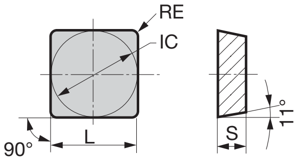
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	(PVD) AC6040M	AC610M	(CVD) AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK		SPMR 090304N-FK	0.4																										●			●	●								
			090308N-FK	0.8																										●	●	▲	●	●								
Finishing to Light Cutting	W		SPGR 090304L-W	0.4																															●								
Light to Medium Cutting	SF		SPMR 090304N-SF	0.4			●	●		●	●																															
			090308N-SF	0.8			●	●		●	●																															
	UJ		SPMR 090304N-UJ	0.4			●			●																															
			090308N-UJ	0.8			●	●		●	●																															
Medium Cutting			SPMN 090304	0.4													●	●	●	▲	▲														●	●		●					
			090308	0.8													●	●	●	▲	▲														●	●		●					
			SPGN 090302	0.2																																						
			090304	0.4																															●	●							
			090308	0.8																					●	●	●								●	●			●				●
			090312	1.2																																						

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

Square type Positive Inserts

SP Square type 11° Pos. Without Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

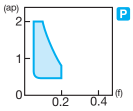
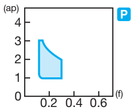
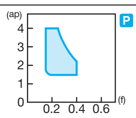
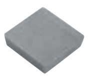
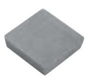
●: Continuous Cutting 1st Recommendation
○: Continuous Cutting 2nd Recommendation
◐: General Machining 1st Recommendation
◌: General Machining 2nd Recommendation
✖: Interrupted Cutting 1st Recommendation
✧: Interrupted Cutting 2nd Recommendation

SP■■1203●●

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

SUMIBORON (CBN) Inserts ☞ L79
SUMIDIA (PCD) Inserts ☞ M14
Ceramic Inserts ☞ B128
Applicable External Holders ☞ C27, C28

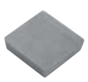
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◌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

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

SP■■1204●●

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

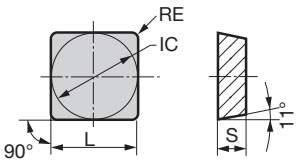
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
P Steel	●	◌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

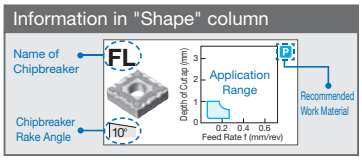
	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E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

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

Square type Positive Inserts

SP Square type 11° Pos. Without Hole





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

SP□□1504●●

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

Applicable External Holders ☞C27, C28

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

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

SP□□1904●●

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

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

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

SP□□2506●●

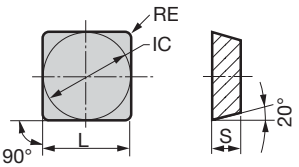
Dimensions (mm)	Cutting Edge Length L	25.4	Thickness S	6.35
	Inscribed Circle IC	25.4		

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

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

Square type Positive Inserts

SE Square type 20° Pos. Without Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

SE■■0702●●

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

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

SE■■0903●●

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

SUMIDIA (PCD) Inserts M15

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			**SEGN 090302** **090304** **090308**	0.2 0.4 0.8

SE■■1203●●

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

SUMIDIA (PCD) Inserts M15

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			**SEGN 120304** **120308**	0.4 0.8

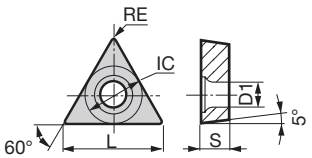
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

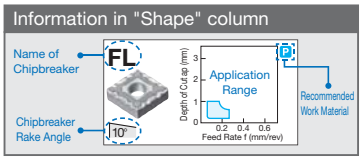
Coated Carbide (CVD / PVD) | Coated Cermet (PVD) | Cermet | Cemented Carbide

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

Triangular type Positive Inserts

TB Triangular type 5° Pos. With Hole





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

TB■■0601●●

Dimensions (mm)	Cutting Edge Length L	6.9	Thickness S	1.59
	Inscribed Circle IC	3.97	Hole Dia. D1	2.2

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

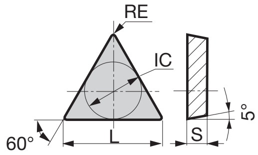
SUMIBORON (CBN) Inserts L87 SUMIDIA (PCD) Inserts M16
Applicable Boring Bars E42, E44

Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing																																									
FW 20°	(ap) 2 1 0 0.2 0.4 (f) P	TBGT 060102R-FW	0.2																										●			●	●								
		TBGT 060102L-FW	0.2																										●			●	●								
		TBGT 060104R-FW	0.4																										●			●	●								
		TBGT 060104L-FW	0.4																										●			●	●								
FX 15°	(ap) 2 1 0 0.2 0.4 (f) P	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°	(ap) 2 1 0 0.2 0.4 (f) P	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																				●	●			●	●						●	●						
W 0°	(ap) 2 1 0 0.2 0.4 (f) P	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																															●						
		060104	0.4																															●						
AY 15°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	TBGT 060101R-AY	0.1																																				●
		TBGT 060101L-AY	0.1																																				●
		TBGT 060102R-AY	0.2																																				●
		TBGT 060102L-AY	0.2																																				●
		TBGT 060104R-AY	0.4																																				●
		TBGT 060104L-AY	0.4																																				●

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

Triangular type Positive Inserts

TB Triangular type 5° Pos. Without Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

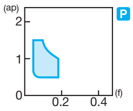
●: Continuous Cutting 1st Recommendation
○: Continuous Cutting 2nd Recommendation
◐: General Machining 1st Recommendation
◔: General Machining 2nd Recommendation
✚: Interrupted Cutting 1st Recommendation
✜: Interrupted Cutting 2nd Recommendation

TB■■0601●●

Dimensions (mm)				
	Cutting Edge Length L	6.9	Thickness S	1.59
	Inscribed Circle IC	3.97		

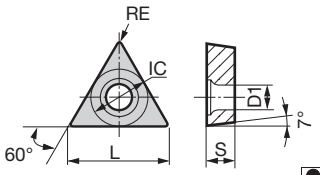
SUMIBORON (CBN) Inserts ☞ L87 SUMIDIA (PCD) Inserts ☞ M16

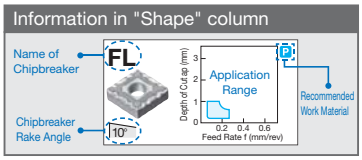
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing to Light Cutting	W  0°		TBGR 060104L-W	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●							
Light Cutting			TBGN 060104	0.4	—	—	—	—	—	—	—	—	—	—	—	—																			●							●

Triangular type Positive Inserts

TC Triangular type 7° Pos. With Hole





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

TC■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.2	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.3

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

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

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

TC■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56	Hole Dia. D1	2.5

SUMIDIA (PCD) Inserts ☞M16
Applicable External Holders ☞D27

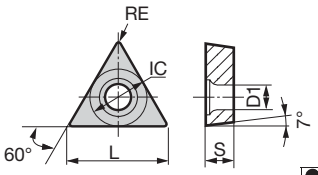
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

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

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

Triangular type Positive Inserts

TC Triangular type 7° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TC■■1102●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

SUMIDIA (PCD) Inserts M16
Applicable External Holders D27

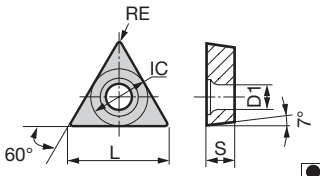
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FF	(ap) 2 1 0 0.2 0.4 (f) P	TCGT 110201MN-FF New	< 0.1																			●	●			●															
	15°		110202MN-FF New	< 0.2																			●	●			●															
			110204MN-FF New	< 0.4																			●	●			●															
Finishing	FB	(ap) 2 1 0 0.2 0.4 (f) P	TCMT 110204N-FB	0.4																								●			●	●	▲	●	●							
	20°		110208N-FB	0.8																								●			●	●	▲	●	●							
	LU	(ap) 2 1 0 0.2 0.4 (f) P	TCMT 110204N-LU	0.4	●	●	●		●	●		●	●		●															●	●	▲	●	●							
	15°		110208N-LU	0.8	●	●	●		●	●		●	●		●															●	●	▲	●	●							
	FP	(ap) 2 1 0 0.2 0.4 (f) P	TCMT 110204N-FP	0.4																														●							
	10°		110208N-FP	0.8																														●							
	FX	(ap) 2 1 0 0.2 0.4 (f) P	TCGT 110201R-FX	0.1																				●	●			●	●													
	15°		110201L-FX	0.1																				●	●			●	●													
			110202R-FX	0.2																				●	●			●	●													
			110202L-FX	0.2																				●	●			●	●													
	FY	(ap) 2 1 0 0.2 0.4 (f) P	TCGT 110201R-FY	0.1																				●	●			●	●													
	15°		110201L-FY	0.1																				●	●			●	●													
			110202R-FY	0.2																				●	●			●	●													
			110202L-FY	0.2																				●	●			●	●													
Light Cutting	LB	(ap) 2 1 0 0.2 0.4 (f) P	TCMT 110204N-LB	0.4		●	●	●		●	●	●	●	●																	●	●	▲		●							
	15°		110208N-LB	0.8		●	●	●		●	●	●	●	●																	●	●	▲		●							
	SU	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	TCMT 110204N-SU	0.4	●	●	●	●	●	●	●	●	●	▲	●								●	●	●		●		●			●										
	8°		110208N-SU	0.8	●	●	●	●	●	●	●	●	●	▲	●								●	●	●		●		●													
	SI	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	TCGT 110201MN-SI New	< 0.1																			●	●			●															
	15°		110202MN-SI New	< 0.2																			●	●			●															
			110204MN-SI	< 0.4												▲	●						●	●	●	●	●	●	●			●			●	●							
	SC	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	TCGT 110201MN-SC	< 0.1																								●	●					●	●							
	6°		110202MN-SC	< 0.2																								●	●					●	●							
			TCMW 110204	0.4													●	●	●	▲	▲																					
			110208	0.8													●	●	●	▲	▲																					
			TCGW 110200	0																																						
			110201	0.1																																						

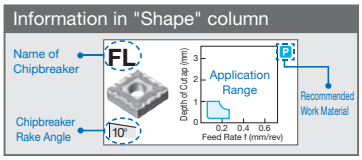
A "<" next to the corner radius RE indicates a negative tolerance.

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

Triangular type Positive Inserts

TC Triangular type 7° Pos. With Hole





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

TC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FX		TCGT 110301R-FX	0.1																															●							
			110301L-FX	0.1																															●							
			110302R-FX	0.2																															●							
			110302L-FX	0.2																															●							
			110304R-FX	0.4																															●							
			110304L-FX	0.4																															●							
Light Cutting	SC		TCGT 110301MN-SC	< 0.1																															●	●						
			110302MN-SC	< 0.2																															●	●						
			TCGW 110300	0																																							
			110301	0.1																																							

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

TC■■16T3●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.97
	Inscribed Circle IC	9.525	Hole Dia. D1	4.3

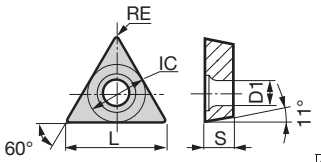
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FP		TCMT 16T304N-FP	0.4																															●							
			16T308N-FP	0.8																															●							
Light Cutting	SU		TCMT 16T304N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●						—	●	●	●																		
			16T308N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●						—	●	●	●																		
			TCMW 16T304	0.4												●	●	●	▲	▲																							
			16T308	0.8												●	●	●	▲	▲																							
			16T312	1.2												●	●	●	▲	▲																							

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

Triangular type Positive Inserts

TP Triangular type 11° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

TP■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.2	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

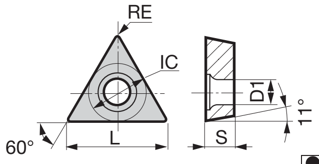
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

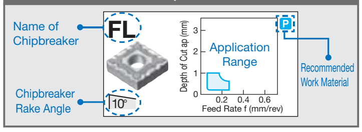
SUMIBORON (CBN) Inserts L88
SUMIDIA (PCD) Inserts M17
SUMIDIA BINDERLESS Inserts M28
Applicable Boring Bars E42 to E45

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	CVD AC6030M	CVD AC6040M	PVD AC610M	PVD AC630M	CVD AC4010K	CVD AC4015K	CVD AC420K	CVD AC405K	CVD AC415K	PVD AC503U	PVD AC5005S	PVD AC5015S	PVD AC5025S	PVD AC510U	PVD AC520U	PVD AC1030U	PVD AC530U	PVD ACZ150	Coated Cermet PVD T1500Z	PVD T2500Z	PVD T3000Z	Cermet T1000A	Cermet T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FF		TPGT 080201MN-FF New	< 0.1																			●	●			●																
			080202MN-FF New	< 0.2																			●	●			●																
			080204MN-FF New	< 0.4																			●	●			●																
Finishing	FB		TPMT 080202N-FB	0.2																									●			●	●	▲	●	●							
			080204N-FB	0.4																									●			●	●	▲	●	●							
	LU		TPMT 080202N-LU	0.2									●	●		●													●						●	●							
			080204N-LU	0.4			●						●	●		●		●											●				●		●	●							
	FW		TPGT 080202R-FW	0.2																												●			●	●							
			080202L-FW	0.2																												●			●	●							
			080204R-FW	0.4																												●			●	●							
			080204L-FW	0.4																												●	●		●	●							
	FX		TPGT 080202R-FX	0.2																			●	●			●	●	●														
			080202L-FX	0.2																			●	●			●	●	●														
			080204R-FX	0.4																			●	●			●	●	●														
			080204L-FX	0.4																			●	●			●	●	●														
	FY		TPGT 0802003R-FY	0.03																			●	●			●	●	●	●													
			0802003L-FY	0.03																			●	●			●	●	●	●													
			080201R-FY	0.1																			●	●			●	●	●	●													
			080201L-FY	0.1																			●	●			●	●	●	●													
			080202R-FY	0.2																			●	●			●	●	●	●					●	●							
			080202L-FY	0.2																			●	●			●	●	●	●					●	●							
			080204R-FY	0.4																			●	●			●	●	●	●					●	●							
			080204L-FY	0.4																			●	●			●	●	●	●					●	●							
Finishing to Light Cutting	W		TPGT 080202R-W	0.2																									●	●		●	●	▲	●	●				●			
			080202L-W	0.2																									●	●		●	●	▲	●	●	●			●			
			080204R-W	0.4																									●	●		●			●	●							
			080204L-W	0.4																									●	●		●	●	▲	●	●				●			
Light Cutting	LB		TPMT 080202N-LB	0.2		●	●	●		●	●	●	●	●																		●	●	▲		●							
			080204N-LB	0.4		●	●	●		●	●	●	●	●																		●	●	▲		●							
	SU		TPMT 080202N-SU	0.2								●	●	●		●							●	●	●				●						●	●							
			080204N-SU	0.4			●					●	●	●		●		●					●	●	●				●						●	●							
	SI		TPGT 080201MN-SI New	< 0.1																			●	●			●																
			080202MN-SI New	< 0.2																			●	●			●																
			080204MN-SI New	< 0.4																			●	●			●																
			TPGW 080202	0.2																															●	●							
			080204	0.4														●																	●	●							●
			080208 New	0.8														●																									●

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

TP | Triangular type | 11° Pos. | With Hole





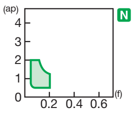
Legend: ●: Continuous Cutting 1st Recommendation / ○: Continuous Cutting 2nd Recommendation | ◑: General Machining 1st Recommendation / ◔: General Machining 2nd Recommendation | ✖: Interrupted Cutting 1st Recommendation / ✕: Interrupted Cutting 2nd Recommendation

TP■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.2	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

SUMIBORON (CBN) Inserts ☞ L88 | SUMIDIA (PCD) Inserts ☞ M17 | SUMIDIA BINDERLESS Inserts ☞ M28 | Applicable Boring Bars ☞ E42 to E45

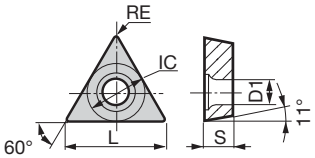
Recommended Application	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous Metal	S Exotic Alloy	H Hardened Steel
Coated Carbide CVD AC8015P	●					
AC8020P	◔					
AC8025P	◑		✕			
AC8035P	✖	✕				
AC810P	○					
AC820P	◔		✕			
AC830P	✕	✕				
AC6020M		●				
AC6030M	◔	◑				
PVD AC6040M		✖				
CVD AC610M	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

Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum AY 15° 	 N	TPGT 080201R-AY	0.1																																						●
		080201L-AY	0.1																																						●
		080202R-AY	0.2																																						●
		080202L-AY	0.2																																						●
		080204R-AY	0.4																																						●
		080204L-AY	0.4																																						●

Insert
B
Negative
Positive
C
D
R
S
T
V
W
Ceramic Solid CBN

Triangular type Positive Inserts

TP Triangular type / 11° Pos. / With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TP■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56	Hole Dia. D1	2.8

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

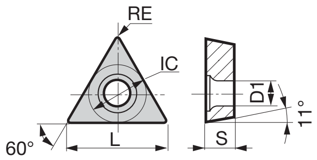
SUMIBORON (CBN) Inserts L90 SUMIDIA (PCD) Inserts M17
Applicable Boring Bars E42

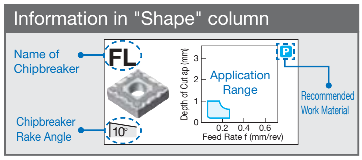
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB		TPMT 090202N-FB	0.2																									●		●	●	▲	●	●								
			090204N-FB	0.4																									●		●	●	▲	●	●								
	LU		TPMT 090202N-LU	0.2	●	●	●			●																					●	●	▲	●	●								
			090204N-LU	0.4	●	●	●			●																					●	●	▲	●	●								
	FX		TPGT 090204L-FX	0.4																														●	●								
	FY		TPGT 090201R-FY	0.1																			●	●				●															
			090201L-FY	0.1																			●	●				●															
			090202R-FY	0.2																			●	●				●								●							
			090202L-FY	0.2																			●	●				●								●							
			090204R-FY	0.4																			●	●				●								●							
			090204L-FY	0.4																			●	●				●								●							
Light Cutting	LB		TPMT 090202N-LB	0.2		●	●	●		●	●	●	●	●																	●	●	▲		●							
			090204N-LB	0.4		●	●	●		●	●	●	●	●				●													●	●	▲		●							
	SU		TPMT 090204N-SU	0.4																			●	●	●																		
			TPGW 090204 New	0.4														●																									●
			090208 New	0.8														●																									●
For Aluminum	AY		TPGT 090201R-AY	0.1																																							●
			090201L-AY	0.1																																							●
			090202R-AY	0.2																																							●
			090202L-AY	0.2																																							●
			090204R-AY	0.4																																							●
			090204L-AY	0.4																																							●

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

Triangular type Positive Inserts

TP — Triangular type 11° Pos. With Hole





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

TP■■1102●●

Dimensions (mm)				
Cutting Edge Length L	11.0	Thickness S	2.38
Inscribed Circle IC	6.35	Hole Dia. D1	2.8

SUMIBORON (CBN) Inserts ☞ L92
SUMIDIA (PCD) Inserts ☞ M18
Applicable Boring Bars ☞ E42

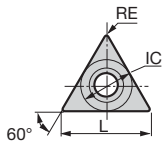
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW 15°	P	TPGT 110202R-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
Finishing	FW	P	110202L-FW	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
Finishing	FW	P	110204R-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
Finishing	FW	P	110204L-FW	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—										●			●	●							
Finishing	FX 15°	P	TPGT 110202R-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●																
Finishing	FX	P	110202L-FX	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●																
Finishing	FX	P	110204R-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●																
Finishing	FX	P	110204L-FX	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●																
Finishing	FX	P	110208R-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●																
Finishing	FX	P	110208L-FX	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			●	●	●																
Finishing	FY 15°	P	TPGT 110202R-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●							
Finishing	FY	P	110202L-FY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●							
Finishing	FY	P	110204R-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●							
Finishing	FY	P	110204L-FY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													●	●							
Finishing	FY	P	110208R-FY	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●							
Finishing	FY	P	110208L-FY	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														●							
For Aluminum	AY 15°	N	TPGT 110202R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					●
For Aluminum	AY	N	110202L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					●
For Aluminum	AY	N	110204R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					●
For Aluminum	AY	N	110204L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																					●

Insert
B
Negative
Positive
C
D
R
S
T
V
W
Ceramic Solid CBN

Triangular type Positive Inserts

TP Triangular type / 11° Pos. / With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	3.4

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

SUMIBORON (CBN) Inserts L93 on
SUMIDIA (PCD) Inserts M19
SUMIDIA BINDERLESS Inserts M28
Applicable Boring Bars E14, E42 to E46

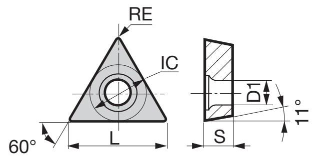
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC750	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB		TPMT 110302N-FB	0.2																									●		●	▲	●									
			110304N-FB	0.4																									●		●	▲	●									
			110308N-FB	0.8																									●		●	▲	●									
	LU		TPMT 110302N-LU	0.2										●															●		●	●		●	●							
			110304N-LU	0.4	●	●	●		●	●			●	●		●													●		●	▲	●	●							
			110308N-LU	0.8	●	●	●		●	●			●	●		●													●		●	▲	●	●							
	FK		TPMT 110308N-FK	0.8																														●	●							
	FC		TPGT 110302MN-FC	< 0.2																			●	●			●	●	●						●	●						
			110304MN-FC	< 0.4																			●	●			●	●	●						●	●						
	FX		TPGT 110302R-FX	0.2																			●	●			●	●	●													
			110302L-FX	0.2																			●	●			●	●	●													
			110304R-FX	0.4																			●	●			●	●	●													
			110304L-FX	0.4																			●	●			●	●	●													
			110308R-FX	0.8																			●	●			●	●	●													
			110308L-FX	0.8																			●	●			●	●	●													
	FY		TPGT 1103003R-FY	0.03																			●	●			●	●	●	●												
			1103003L-FY	0.03																			●	●			●	●	●	●												
			110301R-FY	0.1																			●	●			●	●	●	●												
			110301L-FY	0.1																			●	●			●	●	●	●												
			110302R-FY	0.2																			●	●			●	●	●	●		●			●	●						
			110302L-FY	0.2																			●	●			●	●	●	●		●	●	▲	●	●						
			110304R-FY	0.4																			●	●			●	●	●	●		●			●	●						
			110304L-FY	0.4																			●	●			●	●	●	●		●	●	▲	●	●						
			110308R-FY	0.8																			●	●			●	●	●							●						
			110308L-FY	0.8																			●	●			●	●	●							●						
Finishing to Light Cutting	SD		TPGT 110302R-SD	0.2																									●	●		●			●	●						
			110302L-SD	0.2																									●	●		●	●	▲	●	●				●		
			110304R-SD	0.4																									●	●		●	●	▲	●	●				●		
			110304L-SD	0.4																				●	●	●			●	●		●	●	▲	●	●	●			●		
			110308R-SD	0.8																									●	●		●			●	●						
			110308L-SD	0.8																									●	●		●	●	▲	●	●				●		
	SDW		TPGX 110304R-SDW	0.4																												●	▲									
			110304L-SDW	0.4																												●	▲									
			110308R-SDW	0.8																												●	▲									
			110308L-SDW	0.8																												●	▲									

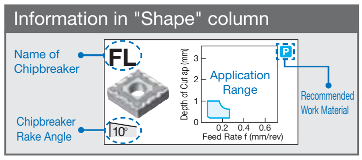
→ B131 Wiper

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

Triangular type Positive Inserts

TP Triangular type 11° Pos. With Hole





●: Continuous Cutting 1st Recommendation ○: Continuous Cutting 2nd Recommendation
◗: General Machining 1st Recommendation ◠: General Machining 2nd Recommendation
✚: Interrupted Cutting 1st Recommendation ✣: Interrupted Cutting 2nd Recommendation

TP■■1103●●

Dimensions (mm)				
Cutting Edge Length L	11.0	Thickness S	3.18
Inscribed Circle IC	6.35	Hole Dia. D1	3.4

SUMIBORON (CBN) Inserts ☞ L93 on
SUMIDIA (PCD) Inserts ☞ M19
SUMIDIA BINDERLESS Inserts ☞ M28
Applicable Boring Bars ☞ E14, E42 to E46

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

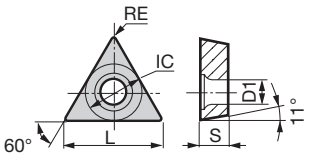
Coated Carbide: CVD (AC8015P–AC6030M), PVD (AC6040M), CVD (AC610M–AC415K), PVD (AC503U–ACZ150); Coated Cermet: PVD (T1500Z–T3000Z); Cermet (T1000A, T1500A); Cemented Carbide (ST10P–H1)

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB 15°	P	TPMT 110302N-LB	0.2		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			110304N-LB	0.4		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
			110308N-LB	0.8		●	●	●		●	●	●	●	●								—						—		—	●	●	▲		●							
	SU 8°	P	TPMT 110302N-SU	0.2	●	●	●	●		●	●	●	●	●	▲	●						—	●	●	●			—	●	—	●	●		●	●							
			110304N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●		●				—	●	●	●			—	●	—	●	●	▲	●	●							
			110308N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●						—	●	●	●			—	●	—	●	●	▲	●	●							
			TPGW 110302	0.2	—	—	—	—	—	—	—	—	—	—	—	—						●																				
			110304	0.4	—	—	—	—	—	—	—	—	—	—	—	—		●				●		●	●	●								●	●				●			●
			110308	0.8	—	—	—	—	—	—	—	—	—	—	—	—		●				●												●	●							●
Light to Medium Cutting	GU 5°	P	TPMT 110304N-GU	0.4	●	●	●	●				●	●	●								—						—		—	●	●			●							
			110308N-GU	0.8	●	●	●	●				●	●	●								—						—		—	●	●			●							
	MU 0°	P	TPMT 110304N-MU	0.4	●	●	●		●	●		●	●			●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
			110308N-MU	0.8	●	●	●		●	●		●	●			●	●	●	●	▲	▲	—						—		—	—	—	—	—	—							—
	SF 0°	P	TPMH 110304N-SF	0.4			●	●		●	●											—						—		—	—	—	—	—	—							—
			110308N-SF	0.8			●	●		●	●											—						—		—	—	—	—	—	—							—
For Aluminum	AY 15°	N	TPGT 110301R-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110301L-AY	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110302R-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110302L-AY	0.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110304R-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			110304L-AY	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

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

Triangular type Positive Inserts

TP Triangular type / 11° Pos. / With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TP■■1603●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

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

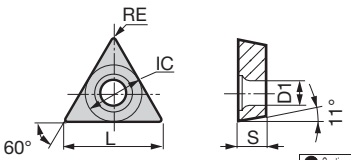
SUMIBORON (CBN) Inserts L96 SUMIDIA (PCD) Inserts M20
Applicable Boring Bars E42, E46

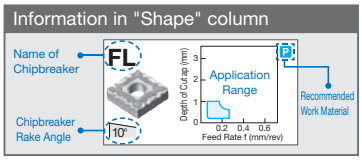
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	AC630M	CVD: AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		**TPMT 160304N-FB**	0.4																									●		●	●	▲	●	●								
			160308N-FB	0.8																									●		●	●	▲	●	●								
	FX		**TPGT 160304R-FX**	0.4																				●	●			●															
			160304L-FX	0.4																				●	●			●															
			160308R-FX	0.8																				●	●			●															
			160308L-FX	0.8																				●	●			●															
	FY		**TPGT 160302R-FY**	0.2																				●	●			●															
			160302L-FY	0.2																				●	●			●															
			160304R-FY	0.4																				●	●			●															
			160304L-FY	0.4																				●	●			●															
			160308R-FY	0.8																				●	●			●															
			160308L-FY	0.8																				●	●			●															
Light Cutting	**LB**		**TPMT 160304N-LB**	0.4		●	●	●		●	●	●	●	●																	●	●	▲		●							
			160308N-LB	0.8		●	●	●		●	●	●	●	●																	●	●	▲		●							

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

Triangular type Positive Inserts

TP Triangular type 11° Pos. With Hole





Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

TP■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.5	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

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

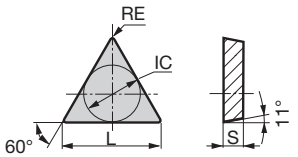
SUMIBORON (CBN) Inserts L96 on
SUMIDIA (PCD) Inserts M20
SUMIDIA BINDERLESS Inserts M28
Applicable Boring Bars E14, E42 to E44

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide: PVD: AC6040M	AC610M	Coated Carbide: CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide: PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	Coated Cermet: PVD: AC530U	AC Z150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB** 20°		TPMT 160404N-FB	0.4																									●		●	●	▲	●	●								
			160408N-FB	0.8																									●		●	●	▲	●	●								
	FK 0°		TPMT 160404N-FK	0.4																														●	●								
			160408N-FK	0.8																															●								
Finishing to Light Cutting	**SD** 0°		TPGT 160402R-SD	0.2																														●	●								
			160402L-SD	0.2																														●	●								
			160404R-SD	0.4																												●	●	▲	●	●								
			160404L-SD	0.4																				●	●	●						●	●	▲	●	●	●							
			160408R-SD	0.8																												●			●	●								
			160408L-SD	0.8																												●			●	●	●							
	SDW → B131 Wiper 0°		TPGX 160404R-SDW	0.4																												●				●								
			160404L-SDW	0.4																												●				●								
			160408R-SDW	0.8																												●				●								
			160408L-SDW	0.8																												●				●								
Light Cutting	**LB** 15°		TPMT 160404N-LB	0.4		●	●	●		●	●	●	●	●																	●	●	▲		●							
			160408N-LB	0.8		●	●	●		●	●	●	●	●																	●	●	▲		●							
	SU 8°		TPMT 160404N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●		●					●	●	●						●	●	▲	●	●							
			160408N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●		●					●	●	●						●	●	▲	●	●							
			TPGW 160400	0																																							
			160404	0.4														●							●	●																●		●
			160408 New	0.8														●																								●	
Light to Medium Cutting	**GU** 5°		TPMT 160404N-GU	0.4	●	●	●	●				●	●	●																	●	●			●							
			160408N-GU	0.8	●	●	●	●				●	●	●																	●	●			●							
	MU 0°		TPMT 160404N-MU	0.4	●	●	●		●	●		●	●			●	●	●	●	▲	▲																					
			160408N-MU	0.8	●	●	●		●	●		●	●			●	●	●	●	▲	▲																					
	SF 0°		TPMT 160404N-SF	0.4			●	●		●	●																															
			160408N-SF	0.8			●	●		●	●																															

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

Triangular type Positive Inserts

TP Triangular type 11° Pos. Without Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TP■■0902●●

Dimensions (mm)	Cutting Edge Length L	9.6	Thickness S	2.38
	Inscribed Circle IC	5.56		

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

SUMIBORON (CBN) Inserts L99 SUMIDIA (PCD) Inserts M21

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK	ap 2 1 0 0.2 0.4 f P	TPMR 090204N-FK	0.4																															●								
Finishing to Light Cutting	W	ap 2 1 0 0.2 0.4 f P	TPGR 090202R-W	0.2																															●								
			090202L-W	0.2																															●								
			090204R-W	0.4																															●								
			090204L-W	0.4																															●	●							
			090208R-W	0.8																															●								
			090208L-W	0.8																															●								
Light Cutting			TPGN 090202	0.2																															●								
			090204	0.4																															●							●	
			090208	0.8																															●							●	

TP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35		

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

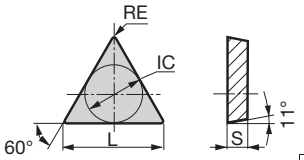
SUMIBORON (CBN) Inserts L99 on SUMIDIA (PCD) Inserts M21
Ceramic Inserts B128 Applicable Boring Bars E46

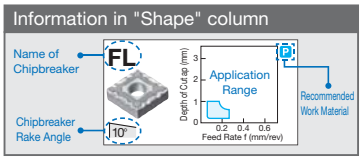
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK	ap 2 1 0 0.2 0.4 f P	TPMR 110302N-FK	0.2																															●	●							
			110304N-FK	0.4																												●	●	▲	●	●								
			110308N-FK	0.8																												●			●	●								
Finishing to Light Cutting	W	ap 2 1 0 0.2 0.4 f P	TPGR 110302R-W	0.2																												●			●	●							
			110302L-W	0.2																												●			●	●							
			110304R-W	0.4																												●			●	●							
			110304L-W	0.4																												●			●	●	●						
			110308L-W	0.8																												●			●	●							
Light to Medium Cutting	SF	ap 4 3 2 1 0 0.2 0.4 0.6 f P	TPMR 110304N-SF	0.4			●	●		●	●																								●							
			110308N-SF	0.8			●	●		●	●																																
	UJ	ap 4 3 2 1 0 0.2 0.4 0.6 f P	TPMR 110304N-UJ	0.4			●	●		●	●																																
			110308N-UJ	0.8			●	●		●	●																																
Medium Cutting			TPMN 110304	0.4													●	●	●	▲	▲		●	●	●	●													●	●				
			110308	0.8													●	●	●	▲	▲		●	●	●	●													●	●				

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

Triangular type Positive Inserts

TP Triangular type 11° Pos. Without Hole





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

TP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35		

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

SUMIBORON (CBN) Inserts L99 on | SUMIDIA (PCD) Inserts M21
Ceramic Inserts B128 | Applicable Boring Bars E46

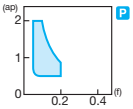
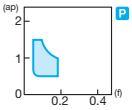
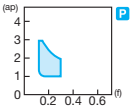
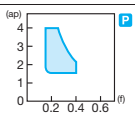
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			TPGN 110302	0.2																														●	●							●
			110304	0.4																					●	●	●							●	●					●		●
			110308	0.8																														●	●					●		●
			110312	1.2																														●	●							●

TP■■1603●●

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

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

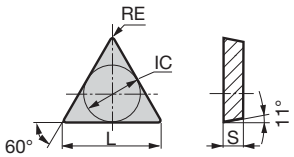
SUMIBORON (CBN) Inserts L101 | SUMIDIA (PCD) Inserts M20
Ceramic Inserts B128
Applicable External Holders C36, C37 | Applicable Boring Bars E46

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FK		TPMR 160304N-FK	0.4																											●	●	▲	●	●							
			160308N-FK	0.8																											●	●	▲	●	●							
			160312N-FK	1.2																														●	●							
Finishing to 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 to Medium Cutting	SF		TPMR 160304N-SF	0.4			●	●		●	●																									●						
			160308N-SF	0.8			●	●		●	●																									●						
			160312N-SF	1.2			●			●																																	
	UJ		TPMR 160304N-UJ	0.4			●	●		●	●																															
			160308N-UJ	0.8			●	●		●	●																															
Medium Cutting			TPMN 160304	0.4													●	●	●	▲	▲		●	●	●	●										●		●	●	●			
			160308	0.8													●	●	●	▲	▲		●	●	●	●										●	●	●	●	●			
			160312	1.2													●	●	●	▲	▲																	●	●			
			TPGN 160302	0.2																														●	●					●		
			160304	0.4																					●	●	●							●	●			●		●		●
			160308	0.8																					●	●	●							●	●			●	●	●		●
			160312	1.2																														●	●					●		
			160316	1.6																																							

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

Triangular type Positive Inserts

TP Triangular type 11° Pos. Without Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

TP■■1604●●

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

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

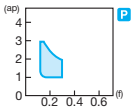
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Medium Cutting			**TPGN 160404**	0.4																																							
			160408	0.8																																				●				
			160412	1.2																																								
			160416	1.6																																								

TP■■2204●●

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

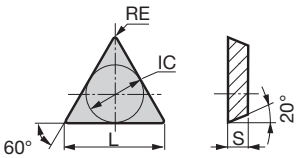
SUMIBORON (CBN) Inserts L102
Applicable External Holders C36, C37

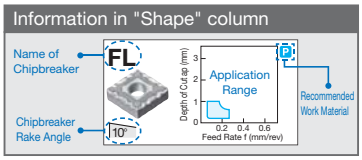
Recommended Application: P Steel; M Stainless Steel; K Cast Iron; N Non-Ferrous Metal; S Exotic Alloy; H Hardened Steel

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting	**SF**  0°		**TPMR 220408N-SF**	0.8																																							
			220412N-SF	1.2																																								
Medium Cutting			**TPMN 220404**	0.4																																●								
			220408	0.8																			●	●	●	●									●	●		●	●	●			
			220412	1.2																			●	●	●	●												●	●	●			
			220416	1.6																																		●	●				
			**TPGN 220404**	0.4																																				●			
			220408	0.8																				●	●	●													●	●			
			220412	1.2																																								
			220416	1.6																																								

Triangular type Positive Inserts

TE Triangular type 20° Pos. Without Hole





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

TE■■1102●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	2.38
	Inscribed Circle IC	6.35		

SUMIDIA (PCD) Inserts M22

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			TEGN 110202	0.2
			110204	0.4
			110208	0.8

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

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

TE■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.0	Thickness S	3.18
	Inscribed Circle IC	6.35		

SUMIDIA (PCD) Inserts M22

	Shape	Application Range	Cat. No.	Corner Radius RE
Light Cutting			TEGN 110302	0.2
			110304	0.4
			110308	0.8

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

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

TE■■1603●●

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

SUMIDIA (PCD) Inserts M22

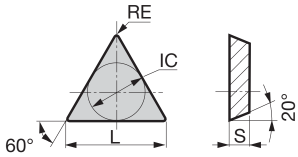
	Shape	Application Range	Cat. No.	Corner Radius RE
Light to Medium Cutting			TEGN 160302	0.2
			160304	0.4
			160308	0.8

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

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

Triangular type Positive Inserts

TE
Triangular type
20° Pos.
Without Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

TE□□2204●●

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

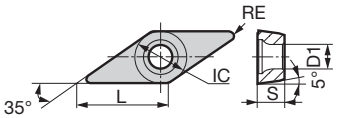
SUMIDIA (PCD) Inserts ☞ M22

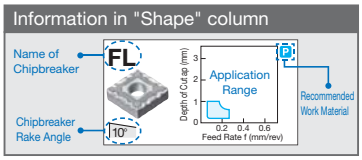
Recommended Application	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
	Coated Carbide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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light to Medium Cutting			**TEGN 220404**	0.4	—	—	—	—	—	—	—	—	—	—	—	—																										●
			220408	0.8	—	—	—	—	—	—	—	—	—	—	—	—																										
			220412	1.2	—	—	—	—	—	—	—	—	—	—	—	—																										

35° Diamond type Positive Inserts

VB 35° Diamond type 5° Pos. With Hole





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

VB■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

SUMIBORON (CBN) Inserts ☞L106, L107

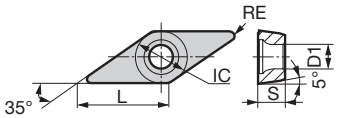
Applicable Boring Bars ☞E50, E52, E53, E55, E56, E58, E59

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD: AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD: AC6040M	AC610M	CVD: AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD: AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: PVD: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB** 20°	(ap) 2 1 0 0.2 0.4 (f) P	VBMT 110302N-FB	0.2																									●		●	●	▲	●	●							
			110304N-FB	0.4																									●		●	●	▲	●	●							
			110308N-FB	0.8																									●		●	●	▲	●	●							
	LU 15°	(ap) 2 1 0 0.2 0.4 (f) P	VBMT 110302N-LU	0.2																									●		●	●		●	●							
			110304N-LU	0.4	●	●	●		●	●				●		●													●		●	●	▲	●	●							
			110308N-LU	0.8	●	●	●						●	●		●													●													
	FX 15°	(ap) 2 1 0 0.2 0.4 (f) P	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																				●	●			●	●	●			●	●							
	FYS 15°	(ap) 2 1 0 0.2 0.4 (f) P	VBGT 1103003R-FYS	0.03																				●	●			●													
			1103003L-FYS	0.03																				●	●			●													
			110301R-FYS	0.1																				●	●			●													
			110301L-FYS	0.1																				●	●			●													
			110302R-FYS	0.2																				●	●			●													
			110302L-FYS	0.2																				●	●			●													
			110304R-FYS	0.4																				●	●			●													
			110304L-FYS	0.4																				●	●			●													
			110308R-FYS	0.8																				●	●			●													
			110308L-FYS	0.8																				●	●			●													
	FYS 15°	(ap) 2 1 0 0.2 0.4 (f) P	VBET 1103003R-FYS	0.03																								●												
			1103003L-FYS	0.03																								●												
			110301R-FYS	0.1																								●												
			110301L-FYS	0.1																								●												
			110302R-FYS	0.2																								●												
			110302L-FYS	0.2																								●												
			110304R-FYS	0.4																								●												
			110304L-FYS	0.4																								●												
			110308R-FYS	0.8																								●												
			110308L-FYS	0.8																								●												
	FY 15°	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	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																				●	●			●	●	●											

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

35° Diamond type Positive Inserts

VB 35° Diamond type / 5° Pos. / With Hole



Grade Selection Guide ☞ A2
Chipbreaker Selection ☞ B4 on
Insert Grade Selection Guide by Work Material ☞ A8 on

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

VB■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

SUMIBORON (CBN) Inserts ☞ L106, L107
Applicable Boring Bars ☞ E50, E52, E53, E55, E56, E58, E59

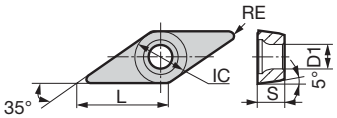
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	**LB**	(ap) 2 1 0 0.2 0.4 (f) P	**VBMT 110302N-LB**	0.2	●	●	●	●	●	●	●	●	●																	●	●	▲		●							
	15°		**110304N-LB**	0.4	●	●	●	●	●	●	●	●	●																	●	●	▲		●							
			110308N-LB	0.8	●	●	●	●	●	●	●	●	●																	●	●	▲		●							
	SU	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**VBMT 110302N-SU**	0.2																	●	●	●				●														
	8°		**110304N-SU**	0.4		●	●							●	▲	●						●	●	●				●				●	▲									
			110308N-SU	0.8		●	●					●	●	●	▲	●						●	●	●				●														
	SI	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**VBGT 110301MN-SI**	< 0.1																			●	●	●	●	●	●														
	15°		**110302MN-SI**	< 0.2																			●	●	●	●	●	●														
			110304MN-SI	< 0.4																			●	●	●	●	●	●														
			110308MN-SI	< 0.8																			●	●	●	●	●	●														
Light to Medium Cutting	**GU**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) P	**VBMT 110304N-GU**	0.4	●	●	●	●				●	●	●																●	●			●							
	5°		**110308N-GU**	0.8	●	●	●	●				●	●	●																●	●			●							
For Aluminum	**AY**	(ap) 4 3 2 1 0 0.2 0.4 0.6 (f) N	**VBGT 110301R-AY**	0.1																																					●
	15°		**110301L-AY**	0.1																																					●
			110302R-AY	0.2																																					●
			110302L-AY	0.2																																					●
			110304R-AY	0.4																																					●
			110304L-AY	0.4																																					●

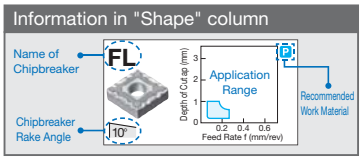
A "<" next to the corner radius RE indicates a negative tolerance.

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

35° Diamond type Positive Inserts

VB 35° Diamond type 5° Pos. With Hole





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

VB■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

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

SUMIBORON (CBN) Inserts ☞L108, L109

Applicable Boring Bars ☞E14, E50, E52, E55, E58

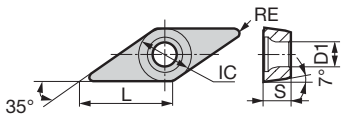
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	CVD AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet: T1500Z	T2500Z	T3000Z	Cermet: T1000A	T1500A	Cemented Carbide: ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		**VBMT 160404N-FB**	0.4																									●		●	●	▲	●	●							
			160408N-FB	0.8																									●		●	●	▲	●	●							
	LU		**VBMT 160404N-LU**	0.4	●	●	●		●	●		●	●		●	●												●		●	●	▲	●	●							
			160408N-LU	0.8	●	●	●		●	●		●	●		●	●												●		●	●	▲	●	●							
	FX		**VBGT 160402R-FX**	0.2																													●	●							
			160402L-FX	0.2																													●	●							
			160404R-FX	0.4																													●	●							
			160404L-FX	0.4																													●	●							
Light Cutting	**LB**		**VBMT 160404N-LB**	0.4		●	●	●		●	●	●	●	●																	●	●	▲		●						
			160408N-LB	0.8		●	●	●		●	●	●	●	●																	●	●	▲		●						
			160412N-LB	1.2		●	●	●		●	●	●	●	●																	●	●	▲		●						
	SU		**VBMT 160404N-SU**	0.4	●	●	●	●	●	●	●	●	●	●	▲	●							●	●	●						●	●	▲	●	●						
			160408N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●							●	●	●						●	●	▲	●	●						
			160412N-SU	1.2	●	●	●			●																																
	SI		**VBGT 160401MN-SI**	< 0.1																				●	●	●	●	●	●												
			160402MN-SI	< 0.2																				●	●	●	●	●	●												
			160404MN-SI	< 0.4																				●	●	●	●	●	●												
			160408MN-SI	< 0.8																				●	●	●	●	●	●												
Light to Medium Cutting			**VBMW 160404**	0.4												●	●	●	▲	▲																				
			160408	0.8												●	●	●	▲	▲																				
	GU		**VBMT 160404N-GU**	0.4	●	●	●	●				●	●	●																	●	●			●						
			160408N-GU	0.8	●	●	●	●				●	●	●																	●	●			●						
For Aluminum	**AY**		**VBGT 160402R-AY**	0.2																																				●
			160402L-AY	0.2																																				●
			160404R-AY	0.4																																				●
			160404L-AY	0.4																																				●

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

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

35° Diamond type Positive Inserts

VC 35° Diamond type 7° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

VC■■0802●●

Dimensions (mm)	Cutting Edge Length L	8.3	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.3

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

SUMIBORON (CBN) Inserts L110 SUMIDIA BINDERLESS Inserts M28
Applicable Boring Bars E51, E54, E57, E60

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FB**		**VCMT 080202N-FB**	0.2																									●	●	●	▲	●	●								
			080204N-FB	0.4																									●	●	●	▲	●	●								
	FC		**VCGT 080204MN-FC**	< 0.4																			●	●		●	●	●	●														
Light Cutting	**LB**		**VCMT 080202N-LB**	0.2		●	●	●		●	●	●	●	●															●	●	▲			●								
			080204N-LB	0.4		●	●	●		●	●	●	●	●															●	●	▲			●								
	SU		**VCMT 080204N-SU**	0.4								●	●	●		●							●	●	●				●													

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

VC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

SUMIBORON (CBN) Inserts L111 SUMIDIA (PCD) Inserts M23 SUMIDIA BINDERLESS Inserts M28
Applicable External Holders C40, C41, D15, D28 Applicable Boring Bars E54, E57, E60

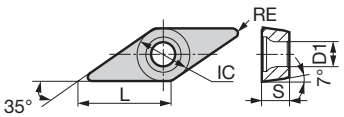
	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	**FF**		**VCGT 110301MN-FF** New	< 0.1																				●	●			●														
			110302MN-FF New	< 0.2																				●	●			●														
			110304MN-FF New	< 0.4																				●	●			●														
Finishing	**FC**		**VCGT 110301MN-FC**	< 0.1																				●	●			●	●	●					●	●							
			110302MN-FC	< 0.2																				●	●			●	●	●					●	●							
			110304MN-FC	< 0.4																				●	●			●	●	●					●	●							
	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																				●	●			●		●													
	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																										●													

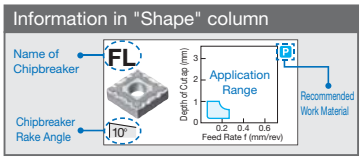
A "<" next to the corner radius RE indicates a negative tolerance.

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

35° Diamond type Positive Inserts

VC 35° Diamond type 7° Pos. With Hole





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

VC■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

SUMIBORON (CBN) Inserts L111 | SUMIDIA (PCD) Inserts M23 | SUMIDIA BINDERLESS Inserts M28

Applicable External Holders C40, C41, D15, D28 | Applicable Boring Bars E54, E57, E60

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M (PVD)	AC610M (CVD)	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U (PVD)	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FY	P	VCGT 110301R-FY	0.1																				●	●		●	●	●													
	15°		110301L-FY	0.1																				●	●		●	●	●													
			110302R-FY	0.2																				●	●		●	●	●													
			110302L-FY	0.2																				●	●		●	●	●													
			110304R-FY	0.4																				●	●			●	●													
			110304L-FY	0.4																				●	●			●	●													
	FY	P	VCET 1103008R-FY	0.08																								●		●												
	15°		1103008L-FY	0.08																								●		●												
			110301R-FY	0.1																								●		●												
			110301L-FY	0.1																								●		●												
			1103018R-FY	0.18																								●		●												
			1103018L-FY	0.18																								●		●												
Light Cutting	SU	P	VCMT 110302N-SU	0.2								●	●	●		●							●	●	●																	
	8°		110304N-SU	0.4		●	●					●	●	●		●							●	●	●																	
			110308N-SU	0.8		●	●					●	●	●		●							●	●	●																	
	SI	P	VCGT 110301MN-SI	< 0.1												▲	●							●	●	●	●	●	●			●	●		●	●						
	15°		110302MN-SI	< 0.2												▲	●							●	●	●	●	●	●			●	●		●	●						
			110304MN-SI	< 0.4												▲	●							●	●	●	●	●	●			●	●		●	●						
			110308MN-SI	< 0.8												▲	●							●	●	●	●	●	●			●	●		●	●						
For Aluminum	AG	N	VCGT 110302N-AG	0.2																																						●
	20°		110304N-AG	0.4																																						●

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

VC■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

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

SUMIBORON (CBN) Inserts L112 | SUMIDIA (PCD) Inserts M23, M24 | SUMIDIA BINDERLESS Inserts M28

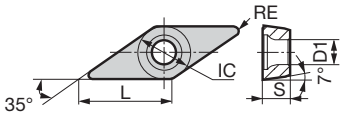
Applicable External Holders C40, C41 | Applicable Boring Bars E54, E57

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M (PVD)	AC610M (CVD)	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U (PVD)	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FB	P	VCMT 160404N-FB	0.4																									●		●	●	▲	●	●							
	20°		160408N-FB	0.8																									●		●	●	▲	●	●							
	LU	P	VCMT 160404N-LU	0.4	●	●	●		●	●			●	●		●															●	●	▲	●	●							
	15°		160408N-LU	0.8	●	●	●		●	●			●	●		●															●	●	▲	●	●							
Light Cutting	LB	P	VCMT 160404N-LB	0.4		●	●	●		●	●	●	●	●		●															●	●	▲		●							
	15°		160408N-LB	0.8		●	●	●		●	●	●	●	●		●															●	●	▲		●							

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

35° Diamond type Positive Inserts

VC 35° Diamond type 7° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

VC■■1604●●

Dimensions (mm)	Cutting Edge Length L	16.6	Thickness S	4.76
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

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

SUMIBORON (CBN) Inserts L112 | SUMIDIA (PCD) Inserts M23, M24
SUMIDIA BINDERLESS Inserts M28
Applicable External Holders C40, C41 | Applicable Boring Bars E54, E57

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	SU	P	VCMT 160404N-SU	0.4	●	●	●	●	●	●	●	●	●	●	▲	●						—	●	●	●		●		●		—	—	—	—	—	—	—	—	—	—	—	—	—
	8°		160408N-SU	0.8	●	●	●	●	●	●	●	●	●	●	▲	●						—	●	●	●		●		●		—	—	—	—	—	—	—	—	—	—	—	—	—
	SI	P	VCGT 160401MN-SI	< 0.1	—	—	—	—	—	—	—	—	—	—	▲	●						—	●	●	●	●	●	●	●		●	●	—	●	●	—	—	—	—	—	—	—	—	—
	15°		160402MN-SI	< 0.2	—	—	—	—	—	—	—	—	—	—	▲	●						—	●	●	●	●	●	●	●		●	●	—	●	●	—	—	—	—	—	—	—	—	—
			160404MN-SI	< 0.4	—	—	—	—	—	—	—	—	—	—	▲	●						—	●	●	●	●	●	●	●		●	●	—	●	●	—	—	—	—	—	—	—	—	—
			160408MN-SI	< 0.8	—	—	—	—	—	—	—	—	—	—	▲	●						—	●	●	●	●	●	●	●		●	●	—	●	●	—	—	—	—	—	—	—	—	—
Light to Medium Cutting	GU	P	VCMT 160404N-GU	0.4	●	●	●	●				●	●	●								—			●						—	—	—	—	—	—	—	—	—	—	—	—	—
	5°		160408N-GU	0.8	●	●	●	●				●	●	●								—			●						—	—	—	—	—	—	—	—	—	—	—	—	—
For Aluminum	AW		VCGT 160408N-AW	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	25°		160412N-AW	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AG	N	VCGT 160408N-AG	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	20°		160412N-AG	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●

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

VC■■2205●●

Dimensions (mm)	Cutting Edge Length L	20.2	Thickness S	5.56
	Inscribed Circle IC	12.7	Hole Dia. D1	5.5

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

SUMIDIA (PCD) Inserts M24
Applicable External Holders C45

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	AC610M	AC630M	CVD AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC Z150	Coated Cermet PVD T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
For Aluminum	AW		VCGT 220510N-AW	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	25°		220516N-AW	1.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			220520N-AW	2.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
			220530N-AW	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	AG	N	VCGT 220530N-AG	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	●
	20°																																									

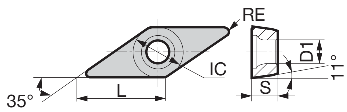
35° Diamond type Positive Inserts

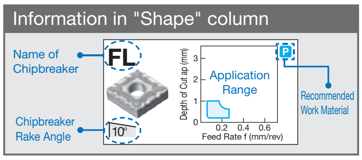
VP

35° Diamond type

11° Pos.

With Hole



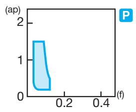
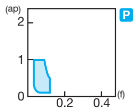


● : Continuous Cutting 1st Recommendation
○ : Continuous Cutting 2nd Recommendation
◕ : General Machining 1st Recommendation
◔ : General Machining 2nd Recommendation
✖ : Interrupted Cutting 1st Recommendation
✣ : Interrupted Cutting 2nd Recommendation

VP■■0802●●

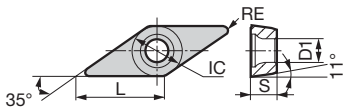
Dimensions (mm)				
	Cutting Edge Length L	8.3	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

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

	Shape	Application Range	Cat. No.	Corner Radius RE	AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	T1500Z	T2500Z	T3000Z	T1000A	T1500A	ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	**FX**  15°		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  15°		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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—							●		●												

35° Diamond type Positive Inserts

VP 35° Diamond type / 11° Pos. / With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

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

VP■■1103●●

Dimensions (mm)	Cutting Edge Length L	11.1	Thickness S	3.18
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

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

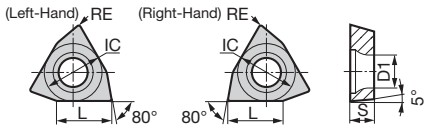
Applicable External Holders D15, D29

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	Coated Carbide (PVD) AC6040M	AC610M	AC630M	Coated Carbide (CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	Coated Carbide (PVD) AC5003U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Fine Cutting	FF		VPGT 110301MN-FF New	< 0.1																			●	●			●																
			110302MN-FF New	< 0.2																			●	●			●																
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																								●		●														
Light Cutting	SI		VPGT 110301MN-SI New	< 0.1																			●	●			●																
			110302MN-SI New	< 0.2																			●	●			●																

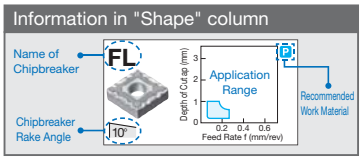
A "<" next to the corner radius RE indicates a negative tolerance.

Trigon type Positive Inserts

WB Trigon type 5° Pos. With Hole



*Uneven Trigon type



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

WB□□0601●●

Dimensions (mm)	Cutting Edge Length L	3.2	Thickness S	1.59
	Inscribed Circle IC	3.97	Hole Dia. D1	2.2

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

SUMIBORON (CBN) Inserts L116 SUMIDIA (PCD) Inserts M25

Applicable Boring Bars E62

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	CVD AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW 20°	(ap) 2 1 0 0.2 0.4 (f) P	WBGT 060102R-FW	0.2																											●	●	●	●							
			060102L-FW	0.2																											●	●	●	●							
			060104R-FW	0.4																											●	●	●	●							
			060104L-FW	0.4																											●	●	●	●							
	FX 15°	(ap) 2 1 0 0.2 0.4 (f) P	WBGT 060102R-FX	0.2																				●	●			●	●												
			060102L-FX	0.2																				●	●	●		●	●												
			060104R-FX	0.4																				●	●			●	●												
			060104L-FX	0.4																				●	●	●		●	●												
	FY 15°	(ap) 2 1 0 0.2 0.4 (f) P	WBGT 0601003L-FY	0.03																														●							
			060101R-FY	0.1																														●							
			060101L-FY	0.1																														●							
			060102R-FY	0.2																				●	●			●	●						●						
			060102L-FY	0.2																				●	●			●	●						●						
			060104R-FY	0.4																				●	●			●	●						●						
			060104L-FY	0.4																				●	●			●	●						●						
Finishing to Light Cutting	W 0°	(ap) 2 1 0 0.2 0.4 (f) P	WBGT 060102R-W	0.2																														●							
			060102L-W	0.2																														●							
			060104R-W	0.4																														●							
			060104L-W	0.4																														●							

WB□□0802●●

Dimensions (mm)	Cutting Edge Length L	4.6	Thickness S	2.38
	Inscribed Circle IC	4.76	Hole Dia. D1	2.4

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

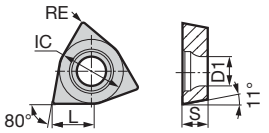
SUMIBORON (CBN) Inserts L117

Applicable Boring Bars E62

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide: CVD AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	PVD AC6040M	CVD AC610M	AC630M	AC4010K	AC4015K	AC420K	AC405K	AC415K	PVD AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	ACZ150	Coated Cermet T1500Z	T2500Z	T3000Z	Cermet T1000A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Finishing	FW 15°	(ap) 2 1 0 0.2 0.4 (f) P	WBGT 080202R-FW	0.2																											●	●	●	●							
			080202L-FW	0.2																											●	●	●	●							
			080204R-FW	0.4																											●	●	●	●							
			080204L-FW	0.4																											●	●	●	●							
	FX 15°	(ap) 2 1 0 0.2 0.4 (f) P	WBGT 080202R-FX	0.2																				●	●			●	●												
			080202L-FX	0.2																				●	●	●		●	●												
			080204R-FX	0.4																				●	●			●	●												
			080204L-FX	0.4																				●	●	●		●	●												
	FY 15°	(ap) 2 1 0 0.2 0.4 (f) P	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																														●							

Trigon type Positive Inserts

WP Trigon type 11° Pos. With Hole



Grade Selection Guide A2
Chipbreaker Selection B4 on
Insert Grade Selection Guide by Work Material A8 on

Continuous Cutting 1st Recommendation / Continuous Cutting 2nd Recommendation
General Machining 1st Recommendation / General Machining 2nd Recommendation
Interrupted Cutting 1st Recommendation / Interrupted Cutting 2nd Recommendation

WP□□1102●●

Dimensions (mm)	Cutting Edge Length L	4.3	Thickness S	2.38
	Inscribed Circle IC	6.35	Hole Dia. D1	2.8

Applicable Boring Bars E63

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	(PVD) AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB		WPMT 110204N-LB	0.4	●	●	●	●		●	●	●	●	●								—								—	●	●	▲		●								

WP□□1603●●

Dimensions (mm)	Cutting Edge Length L	6.5	Thickness S	3.18
	Inscribed Circle IC	9.525	Hole Dia. D1	4.4

Applicable Boring Bars E63

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

	Shape	Application Range	Cat. No.	Corner Radius RE	Coated Carbide (CVD) AC8015P	AC8020P	AC8025P	AC8035P	AC810P	AC820P	AC830P	AC6020M	AC6030M	AC6040M	(PVD) AC610M	AC630M	(CVD) AC4010K	AC4015K	AC420K	AC405K	AC415K	(PVD) AC503U	AC5005S	AC5015S	AC5025S	AC510U	AC520U	AC1030U	AC530U	AC2150	Coated Cermet (PVD) T1500Z	T2500Z	T3000Z	Cermet T1000A	T1500A	Cemented Carbide ST10P	ST20E	A30	G10E	EH510	EH520	H1
Light Cutting	LB		WPMT 160308N-LB	0.8	●	●	●	●		●	●	●	●	●								—								—	●	●	▲		●								

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

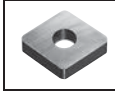
Ceramic Inserts

Negative With Hole

(Legend) Continuous Cutting: ●: 1st Recommended, ○: 2nd Recommended; General Machining: ●: 1st Recommended, ◔: 2nd Recommended; Interrupted Cutting: ✖: 1st Recommended, ✲: 2nd Recommended

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

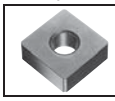
◇ 80° Diamond type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	CNGA 120404	—	●	●	12.70	4.76	0.4	5.16
	CNGA 120408	—	●	●	12.70	4.76	0.8	5.16
	CNGA 120412	—	●	●	12.70	4.76	1.2	5.16

◇ 55° Diamond type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	DNGA 150404	—		●	12.70	4.76	0.4	5.16
	DNGA 150408	—		●	12.70	4.76	0.8	5.16
	DNGA 150412	—		●	12.70	4.76	1.2	5.16

□ Square type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	SNGA 120404	—		●	12.70	4.76	0.4	5.16
	SNGA 120408	—		●	12.70	4.76	0.8	5.16
	SNGA 120412	—		●	12.70	4.76	1.2	5.16

△ Triangular type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	TNGA 160404	—		●	9.525	4.76	0.4	3.81
	TNGA 160408	—	●	●	9.525	4.76	0.8	3.81
	TNGA 160412	—			9.525	4.76	1.2	3.81
	TNGA 160416	—		—	9.525	4.76	1.6	3.81

◇ 35° Diamond type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	VNGA 160404	—		●	9.525	4.76	0.4	3.81
	VNGA 160408	—		●	9.525	4.76	0.8	3.81

Negative Without Hole

(Legend) Continuous Cutting: ●: 1st Recommended, ○: 2nd Recommended; General Machining: ●: 1st Recommended, ◔: 2nd Recommended; Interrupted Cutting: ✖: 1st Recommended, ✲: 2nd Recommended

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

◇ 80° Diamond type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	CNGN 120408	●	●	—	12.70	4.76	0.8	—
	CNGN 120412		●	—	12.70	4.76	1.2	—
	CNGN 120416	●		—	12.70	4.76	1.6	—
	CNGN 120712			—	12.70	7.94	1.2	—

◇ 55° Diamond type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	DNGN 150408		●	—	12.70	4.76	0.8	—
	DNGN 150412			—	12.70	4.76	1.2	—
	DNGN 150416			—	12.70	4.76	0.8	—
	DNGN 150712		●	—	12.70	7.94	1.2	—

◇ 75° Diamond type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	ENGN 130408			—	12.70	4.76	0.8	—
	ENGN 130412			—	12.70	4.76	1.2	—
	ENGN 130708		●	—	12.70	7.94	0.8	—
	ENGN 130712		●	—	12.70	7.94	1.2	—

○ Round type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	RNGN 120400	●		—	12.70	4.76	—	—
	RNGN 120700	●	●	—	12.70	7.94	—	—
	RNGN 150700			—	15.875	7.94	—	—

□ Square type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	SNGN 120408	●	●	—	12.70	4.76	0.8	—
	SNGN 120412	●	●	—	12.70	4.76	1.2	—
	SNGN 120416	●	●	—	12.70	4.76	1.6	—
	SNGN 120420			—	12.70	4.76	2.0	—
	SNGN 120708			—	12.70	7.94	0.8	—
	SNGN 120712		●	—	12.70	7.94	1.2	—
	SNGN 120716			—	12.70	7.94	1.6	—
	SNGN 120720		●	—	12.70	7.94	2.0	—

△ Triangular type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	TNGN 160404		●	—	9.525	4.76	0.4	—
	TNGN 160408	●	●	—	9.525	4.76	0.8	—
	TNGN 160412	●	●	—	9.525	4.76	1.2	—
	TNGN 160712	—		—	9.525	7.94	1.2	—

WX120 is only sold in Japan.

Ceramic Inserts

Positive | Without Hole

(Legend)
- Continuous Cutting: ●: 1st Recommended, ○: 2nd Recommended
- General Machining: ◕: 1st Recommended, ◔: 2nd Recommended
- Interrupted Cutting: ✱: 1st Recommended, ✲: 2nd Recommended

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

◯ Round type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	RBGN 120700			—	12.70	7.94	—	—
	RBGN 150700			—	15.875	7.94	—	—
	RBGN 250900			—	25.40	9.52	—	—
	RBG 12S			—	12.00	11.0	—	—
	RBG 16S		●	—	16.00	13.0	—	—
	RBG 20S		●	—	20.00	15.0	—	—
	RBG 26S			—	26.00	16.0	—	—
	RBG 32S			—	32.00	21.0	—	—
	RCGX 090700	●		—	9.525	7.94	—	—
	RCGX 120700			—	12.70	7.94	—	—

▢ Square type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	SPGN 090308			—	9.525	3.18	0.8	—
	SPGN 120308		●	—	12.70	3.18	0.8	—

△ Triangular type

Shape	Cat. No.	Ceramics WX120	Ceramics NB90S	Ceramics NB100C	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole Dia.
	TPGN 110304		●	●	6.35	3.18	0.4	—
	TPGN 110308		●		6.35	3.18	0.8	—
	TPGN 160304		●	●	9.525	3.18	0.4	—
	TPGN 160308		●	●	9.525	3.18	0.8	—

WX120 is only sold in Japan.

Solid SUMIBORON

Indexable Inserts (Solid CBN type)

Refer to pages L122 to L125 for solid SUMIBORON dedicated holders.

Applications K Cast Iron H Hardened Steel

Shape	Cat. No.	BNC8115	BNS8125	Dimensions (mm) Inscribed Circle	Thickness	Corner Radius	Hole	Applicable Holder
	CNGN 090308	●	●	9.525	3.18	0.8	No	External Dia. L123
	CNGN 090308LF			9.525	3.18	0.8	No	
	CNGN 090312	●	●	9.525	3.18	1.2	No	
	CNGN 090312LF			9.525	3.18	1.2	No	
	CNGN 120408	●	●	12.70	4.76	0.8	No	External Dia. L123
	CNGN 120412	●	●	12.70	4.76	1.2	No	
	CNGN 120416	●	●	12.70	4.76	1.6	No	
	CNGA 120408	●	●	12.70	4.76	0.8	Yes	External Dia. C10 ~ C12
	CNGA 120412	●	●	12.70	4.76	1.2	Yes	Internal Dia. E15, E23 ~ E25
	CNGX 120408			12.70	4.76	0.8	Dimple	External Dia. L125
	CNGX 120412	●	●	12.70	4.76	1.2	Dimple	
	CNGX 120416	●	●	12.70	4.76	1.6	Dimple	
	DNGN 110308	●	●	9.525	3.18	0.8	No	External Dia. L123
	DNGN 110308LF			9.525	3.18	0.8	No	
	DNGN 110312	●	●	9.525	3.18	1.2	No	
	DNGN 110312LF			9.525	3.18	1.2	No	
	RNGN 090300	●	●	9.525	3.18	-	No	External Dia. L124
	RNGN 090300LF			9.525	3.18	-	No	
	RNGN 120300	●	●	12.70	3.18	-	No	External Dia. L124
	RNGN 120300LF			12.70	3.18	-	No	
	RNGN 120400	●	●	12.70	4.76	-	No	
	SNGN 090308	●	●	9.525	3.18	0.8	No	External Dia. L122
	SNGN 090308LF			9.525	3.18	0.8	No	Milling Cutters H251 L145
	SNEN 090308W	●	●	9.525	3.18	0.8	No	
	SNEN 090308LFW			9.525	3.18	0.8	No	
	SNGN 090312	●	●	9.525	3.18	1.2	No	
	SNGN 090312LF			9.525	3.18	1.2	No	
	SNGN 120308	●	●	12.70	3.18	0.8	No	External Dia. L122
	SNGN 120308LF			12.70	3.18	0.8	No	
	SNGN 120312	●	●	12.70	3.18	1.2	No	
	SNGN 120312LF			12.70	3.18	1.2	No	
	SNGN 120408	●	●	12.70	4.76	0.8	No	External Dia. L122
	SNGN 120412	●	●	12.70	4.76	1.2	No	
	SNGN 120416	●	●	12.70	4.76	1.6	No	
	SNGN 120420	●	●	12.70	4.76	2.0	No	
	SNGA 120408	●	●	12.70	4.76	0.8	Yes	External Dia. C21 ~ C26
	SNGA 120412	●	●	12.70	4.76	1.2	Yes	Internal Dia. E39 ~ E41
	SNGX 120408			12.70	4.76	0.8	Dimple	External Dia. L125
	SNGX 120412	●	●	12.70	4.76	1.2	Dimple	
	SNGX 120416	●	●	12.70	4.76	1.6	Dimple	
	TNGN 110308	●	●	6.35	3.18	0.8	No	External Dia. L122
	TNGN 110308LF			6.35	3.18	0.8	No	
	TNGN 110312	●	●	6.35	3.18	1.2	No	
	TNGN 110312LF			6.35	3.18	1.2	No	
	TNGN 160408	●	●	9.525	4.76	0.8	No	External Dia. L122
	TNGN 160412	●	●	9.525	4.76	1.2	No	
	TNGN 160416	●	●	9.525	4.76	1.6	No	
	TNGN 160420	●	●	9.525	4.76	2.0	No	
	TNGA 160408	●	●	9.525	4.76	0.8	Yes	External Dia. C29 ~ C35
	TNGA 160412	●	●	9.525	4.76	1.2	Yes	External Dia. D16 D20
								Internal Dia. E15, E47 ~ E49

*Part number suffix: LF: Sharp edged W: Wiper type LFW: Wiper sharp edged

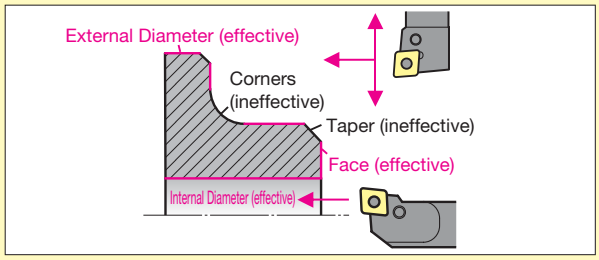
● mark: Standard stocked item (new product/expanded item)

Precautions when Using Wiper Inserts

Effectiveness of Wiper Inserts

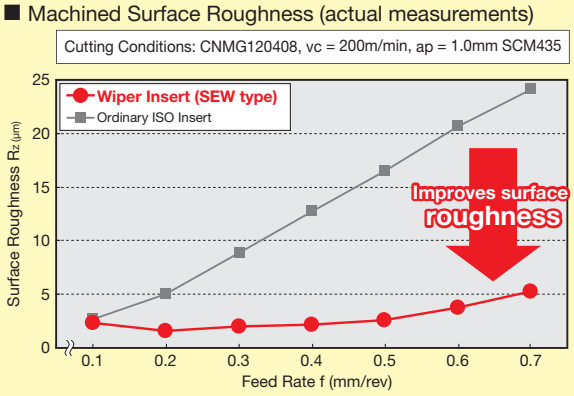
Wiper inserts are effective for external/internal diameter machining and for facing as shown in the figure below, and surface roughness of the machined surface can be maintained even in high-feed turning.

■ Effective Range of Wiper Inserts



* Note that wiper inserts leave the same machined surface roughness as normal inserts at tapers and corners.
* The cutting edge position may need to be offset depending on the insert shape. See the offset table below.

■ Machined Surface Roughness (actual measurements)

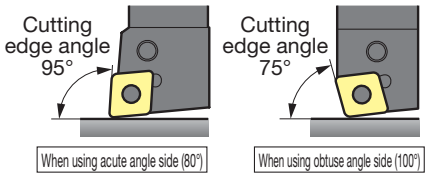


Coated Carbide / Coated Cermet / Cermet

CNMG/WNMG/CCMT/CPMT type

LUW/GUW/SEW type Chipbreaker (LUW type chipbreaker only for CCMT/CPMT type)

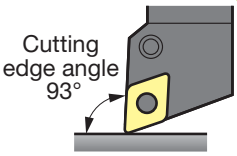
- Use a holder with a cutting edge angle of 95°.
- Machining program modification not required.
  CNMG type / WNMG type / CCMT type / CPMT type wiper inserts follow the ISO standard, allowing use without correcting the machining program.
- The obtuse (100°) corner on the CNMG type can also provide a wiper effect.



DNMX type

SEW type chipbreaker

- Use a holder with a cutting edge angle of 93°.
- Machining program modification required.
  DNMX type wiper inserts do not comply with the ISO standard. Correct the machining program as explained on the following page (B132).

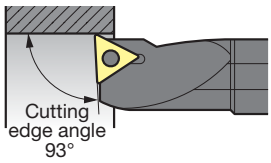


DNMX type Machining Program Modification Guide (→ B132)

TPGX type

SDW type chipbreaker

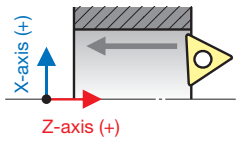
- Use a boring bar with a 93° cutting edge angle.
- Machining program modification required.
  TPGX type wiper inserts do not comply with the ISO standard. Correct the cutting edge position (tool offset) as explained on the right.



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

Cutting Edge Position Correction for TPGX type chipbreaker (SDW)

Internal boring



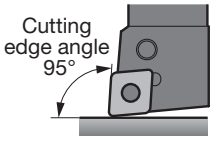
Corner Radius	X-axis Direction	Z-axis Direction
R0.4	0.12	-0.02
R0.8	0.12	-0.02

CBN (SUMIBORON / Coated SUMIBORON)

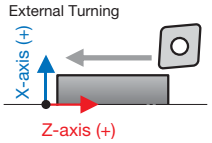
CNGA type/CCGW type/WNGA type

WG type / WH type Wiper Insert

- Use a holder with a cutting edge angle of 95°.
- Machining program modification required as CNGA type / CCGW type / WNGA type wiper inserts do not comply with the ISO standard profiles. Correct the cutting edge position (tool offset) as explained on the right.



CNGA type / CCGW type / WNGA type Wiper Insert Cutting Edge Position Offset (WG type / WH type)

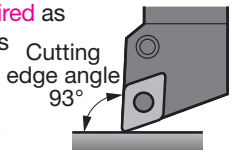


Corner Radius	Type	X-axis direction	Z-axis direction
R0.4	WG type	-0.02	-0.02
	WH type	-0.06	-0.06
R0.8/R1.2	WG type	-0.01	-0.01
	WH type	-0.06	-0.06

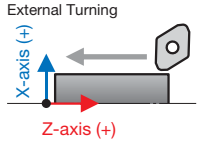
DNGA type / DCGW type

WG type / WH type Wiper Insert

- Use a holder with a cutting edge angle of 93°.
- Machining program modification required as DNGA type / DCGW type wiper inserts do not comply with the ISO standard profiles. Correct the cutting edge position (tool offset) as explained on the right.



DNGA type / DCGW type Wiper Insert Cutting Edge Position Offset (WG type / WH type)



Corner Radius	Type	X-axis direction	Z-axis direction
R0.4	WG type	-0.17	-0.01
	WH type	-0.70	-0.06
R0.8	WG type	-0.05	0
	WH type	-0.58	-0.05

Note: Unlike other contour shapes, the DNGA/DCGW types can only exhibit wiper effect for external and internal diameter machining, and cannot be used for facing.

Precautions when Using Wiper Inserts

Tool Program Correction Guide for DNMX type Wiper Inserts (Compensation: mm)

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

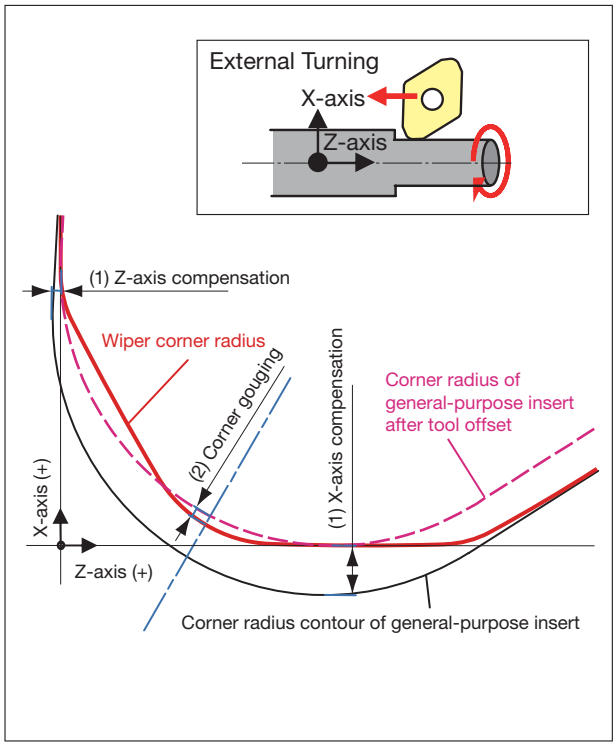
The cutting edge position for this insert differs from standard ISO inserts and therefore requires dimensional correction in the X and Z axes as shown in the table on the right.

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

External Turning

Corner Radius	X-axis Direction	Z-axis Direction
R0.4	-0.14	-0.02
R0.8	-0.14	-0.02
R1.2	-0.1	-0.03

● Insert Corner Radius Diagram

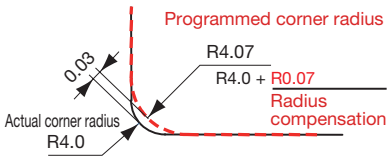


(2) Tool compensation for corners (based on compensation in step (1))

The programmed tool path must be corrected to prevent the insert from gouging into the workpiece's corner radius.

Programmed corner radius = actual corner radius + radius compensation

Example) To machine an R4.0 corner (using an R0.8 corner)



Corner Radius	Amount of Engagement	Radius Compensation
R0.4	0.02	+R0.04
R0.8	**0.03**	**+R0.07**
R1.2	0.08	+R0.18

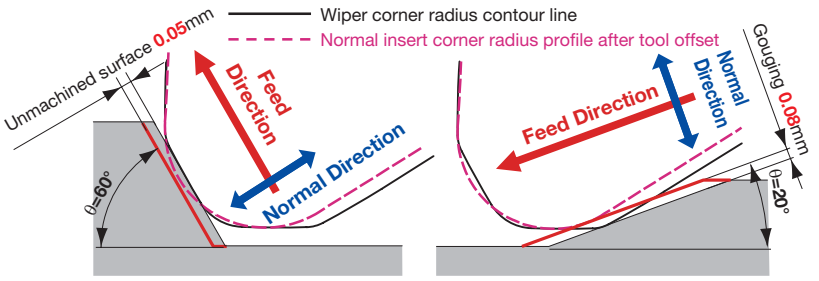
(3) Tool compensation for tapers (based on compensation in step (1))

When machining tapers, the programmed tool path may leave gouged or unmachined surfaces. Make corrections in the normal direction as shown below.

Compensation + indicates gouging
Compensation - indicates unmachined surfaces.

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

Example) To machine a 60°/-20° taper angle (θ) with a R0.8 corner radius



Corner Radius	Taper Angle (θ)																		
	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	**60°**	65°	70°	75°	80°	85°	90°
R0.4	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.03	-0.03	-0.04	-0.05	-0.05	-0.05	-0.03	-0.02	-0.02	-0.01	0.00
R0.8	0.00	0.01	0.02	0.03	0.03	0.03	0.03	0.02	0.01	0.00	-0.02	-0.03	**-0.05**	-0.04	-0.03	-0.02	-0.01	0.00	0.00
R1.2	0.00	0.02	0.04	0.06	0.07	0.08	0.08	0.07	0.06	0.05	0.03	0.00	-0.03	-0.02	-0.01	0.00	0.01	0.00	0.00