

ISO Turning Insert Naming Rules

Shape

C N M G 12 04 08 — PM

A	B	C
D	E	H
K	L	M
O	P	R
S	T	T
V	W	Z

Chip Breaker and Hole

C N M G 12 04 08 — PM

Symbol	Center Hole	Chip Breaker	Insert Profile	Symbol	Center Hole	Chip Breaker	Insert Profile
B	(Y)	(N)		N	(N)	(N)	
H	(Y)	(S)		R	(N)	(S)	
C	(Y)	(N)		F	(N)	(D)	
J	(Y)	(D)		A	(Y)	(N)	
W	(Y)	(N)		M	(Y)	(S)	
T	(Y)	(S)		G	(Y)	(D)	
Q	(Y)	(N)		X			
U	(Y)	(D)					

Clearance Angle

C N M G 12 04 08 — PM

A	B
C	D
E	F
G	N
P	O
	Others

Tolerance









C N M G 12 04 08 — PM

Symbol	m (mm)	d=I.C. (mm)	s (mm)	(reference)M grade tolerance detail(according to shape, size.) Tolerance of insert nose height						
				Inscribed Circle	Regular Triangle	Square	80° Rhombus	55° Rhombus	35° Rhombus	Round
				6.35	±0.08	±0.08	±0.08	±0.11	±0.16	...
				9.525	±0.08	±0.08	±0.08	±0.11	±0.16	...
				12.7	±0.13	±0.13	±0.13	±0.15	...	...
A	±0.005	±0.025	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	...	...
F	±0.005	±0.013	±0.025	19.05	±0.15	±0.15	±0.15	±0.18	...	...
C	±0.013	±0.025	±0.025	25.4	...	±0.18	...	...	...	...
H	±0.013	±0.013	±0.013	●Tolerance of Inscribed Circle						
E	±0.025	±0.025	±0.025							
G	±0.025	±0.025	±0.13	Inscribed Circle	Regular triangle	Square	80° Rhombus	55° Rhombus	35° Rhombus	Round
J	±0.005	±0.05±0.13	±0.025	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	
K	±0.013	±0.05±0.13	±0.025	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
L	±0.025	±0.05±0.13	±0.025	12.7	±0.08	±0.08	±0.08	±0.08	...	±0.08
M	±0.08±0.18	±0.05±0.13	±0.13	15.875	±0.1	±0.1	±0.10	±0.10	...	±0.1
N	±0.08±0.18	±0.05±0.13	±0.025	19.05	±0.1	±0.1	±0.10	±0.10	...	±0.1
U	±0.13±0.38	±0.08±0.25	±0.13	25.4	...	...	±0.13	...	...	±0.13

ISO Turning Insert Naming Rules

Cutting Edge Length

C N M G 12 04 08 — PM

Inscribed Circle diameter(mm)	Insert Shape							
	C	D	R	S	T	V	W	K
								
3.97					06			
5			05					
5.56					09			
6			06					
6.35	06	07			11	11		
8			08					
9.525	09	11	09	09	16	16	06	16
10			10					
12			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16			19	16				
19.05	19		19	19	33			
20			20					
25	25	25	25					
25.4			25	25				
31.75			31					
32			32					

Thickness

C N M G 12 04 08 —

Symbol	Thickness(mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.7



Corner Radius














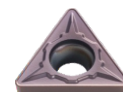
C N M G 12 04 08 — PM

Symbol	Corner Radius mm
00	
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2
24	2.4
32	3.2
X	Special

Diameter Dimension Round Insert

Chip Beaker

C N M G 12 04 08 — PM

PF	PM	PR	MF2	MM
				
MF	MSF	SF	SM	TF
				
TM	TR	NL	SL	
				

Inserts Overview

CNMG-PF		CNMG-MF2		CNMG-MSF		CNMG-PM		CNMG-MM		CNMG-MF	
											
P11		P11		P11		P11		P12		P12	
EdgeLength	12.9	EdgeLength	12.9	EdgeLength	9.7 12.9	EdgeLength	12.9 16.1 19.3	EdgeLength	12.9 16.1	EdgeLength	9.7 12.9 16.1
CNMG-SM		CNMG-PR		CNMM-PR		CNMG		CNMA		DNMG-PF	
											
P12		P12		P12		P13		P13		P14	
EdgeLength	12.9	EdgeLength	12.9 16.1 19.3	EdgeLength	19.3	EdgeLength	12.9 16.1 19.3	EdgeLength	12.9 16.1 19.3	EdgeLength	11.6 15.5
DNMG-MSF		DNMG-MF2		DNMG-PM		DNMG-MM		DNMG-MF		DNMG-PR	
											
P14		P14		P14		P14		P14		P15	
EdgeLength	11.6 15.5	EdgeLength	15.5	EdgeLength	11.6 15.5	EdgeLength	11.6 15.5	EdgeLength	11.6 15.5	EdgeLength	15.5
DNMG		DNMA		SNMG-PF		SNMG-MF2		SNMG-PM		SNMG-MM	
											
P15		P15		P15		P15		P16		P16	
EdgeLength	11.6 15.5	EdgeLength	11.6 15.5	EdgeLength	12.7	EdgeLength	12.7	EdgeLength	12.7 15.875 19.05	EdgeLength	12.7 15.875
SNMG-MF		SNMG-SM		SNMG-PR		SNMM-PR		SNMG GH		SNMA	
											
P16		P16		P17		P17		P17		P17	
EdgeLength	12.7	EdgeLength	12.7	EdgeLength	12.7 15.875 19.05	EdgeLength	15.9 25.4	EdgeLength	9.525 12.7 15.875 19.05 25.4	EdgeLength	12.7 15.875 19.05

Inserts Overview




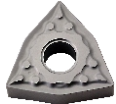
TNMG-PF		TNMG-MF		TNMG-MSF		TNMG-PM		TNMG-MM		TNMG-MF		
												
P18		P18		P18		P18		P18		P18		
EdgeLength	16.5	EdgeLength	16.5	EdgeLength	16.5	EdgeLength	16.5	22	EdgeLength	16.5	22	
EdgeLength	16.5	EdgeLength	16.5	EdgeLength	16.5	EdgeLength	16.5	22	EdgeLength	16.5	22	
TNMG-PR		TNMG GH		TNMA		VNMG-PF		VNMG-MSF		VNMG-PM		
												
P19		P19		P19		P20		P20		P20		
EdgeLength	16.5	22	27.5	EdgeLength	16.5	22	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6
EdgeLength	16.5	22	27.5	EdgeLength	16.5	22	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6
VNMG-MM		VNMG-MF2		VNMG-PR		VNMG GH		VNMA		WNMG-PF		
												
P20		P20		P21		P21		P21		P21		
EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	6.5	8.7
EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	16.6	EdgeLength	6.5	8.7
WNMG-MF2		WNMG-MSF		WNMG-PM		WNMG-MM		WNMG-MF		WNMG-PR		
												
P21		P21		P22		P22		P22		P23		
EdgeLength	6.5	8.7	EdgeLength	6.5	8.7	EdgeLength	6.5	8.7	EdgeLength	6.5	8.7	
EdgeLength	6.5	8.7	EdgeLength	6.5	8.7	EdgeLength	6.5	8.7	EdgeLength	6.5	8.7	
WNMG GH		WNMA		CCMT-TF		CCMT-TM		CCMT-MSF		CCMT-SL		
												
P23		P23		P24		P24		P25		P25		
EdgeLength	8.7	EdgeLength	6.5	8.7	EdgeLength	6.4	9.7	12.9	EdgeLength	6.4	9.7	12.9
EdgeLength	8.7	EdgeLength	6.5	8.7	EdgeLength	6.4	9.7	12.9	EdgeLength	6.4	9.7	12.9

Inserts Overview

Insert for Aluminum

	CCGX-NL	DCGX-NL	SCGX-NL	TCGX-NL	VCGX-NL
	 P34	 P34	 P34	 P35	 P35
EdgeLength	6.4 9.7 12.9	EdgeLength 7.8 11.6	EdgeLength 9.525 12.7	EdgeLength 9.6 11 16.5	EdgeLength 11 16.5 22

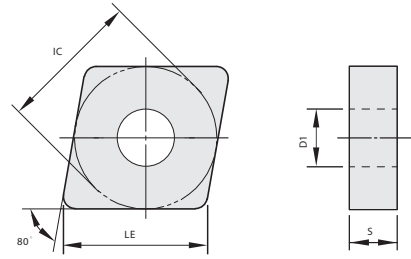
Cermet Inserts

	CNMG-SAL	TNMG-SAL	VNMG-SAL	WNM-SAL
	 P36	 P36	 P36	 P36
EdgeLength	12.9	EdgeLength 16.5	EdgeLength 16.6	EdgeLength 8.7

Parting and Grooving Inserts

	M□□N-M	ZQMX-1E	T□□U
	 P39	 P39	 P40
EdgeLength	2.5 3 4 6	EdgeLength 3.1 4.1 5.1 6.4	EdgeLength 2.5 3 4 6

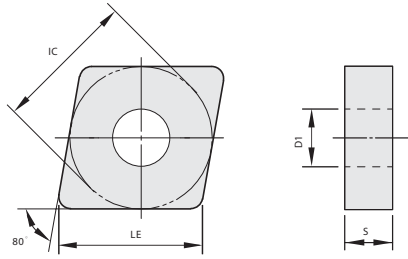
Turning Insert (Negative) CN □ □



Insert Shape	Type	Dimension					P					M				K			S
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105
	CNMG120404-PF	12.9	12.7	4.76	5.16	0.4			▲	●	▲								
	CNMG120408-PF	12.9	12.7	4.76	5.16	0.8			▲	●	▲								
	CNMG120404-MF2	12.9	12.7	4.76	5.16	0.4					●	●	▲	●					
	CNMG120408-MF2	12.9	12.7	4.76	5.16	0.8					●	●	▲	●					
	CNMG090304-MSF	9.7	9.525	3.18	3.81	0.4					●	●	▲	●					
	CNMG120404-MSF	12.9	12.7	4.76	5.16	0.4					●	●	▲	●					
	CNMG120404-PM	12.9	12.7	4.76	5.16	0.4			●	▲	▲							●	
	CNMG120408-PM	12.9	12.7	4.76	5.16	0.8			●	▲	▲							●	
	CNMG120412-PM	12.9	12.7	4.76	5.16	1.2			●	▲	▲							●	
	CNMG120416-PM	12.9	12.7	4.76	5.16	1.6			●	▲	▲							●	
	CNMG160608-PM	16.1	15.875	6.35	6.35	0.8			●	▲	▲							●	
	CNMG160612-PM	16.1	15.875	6.35	6.35	1.2			●	▲	▲							●	
	CNMG160616-PM	16.1	15.875	6.35	6.35	1.6			●	▲	▲							●	
	CNMG190608-PM	19.3	19.05	6.35	7.94	0.8			●	▲	▲							●	
	CNMG190612-PM	19.3	19.05	6.35	7.94	1.2			●	▲	▲							●	
	CNMG190616-PM	19.3	19.05	6.35	7.94	1.6			●	▲	▲							●	

▲ Featured grade ● Optional grade

Turning Insert (Negative) CN □ □



B

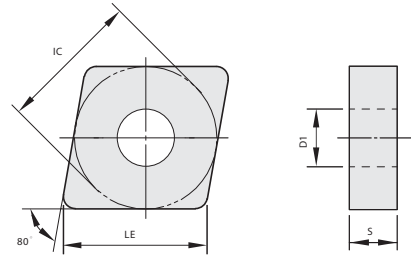
Insert Shape	Type	Dimension					P					M			K		S		
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105
	CNMG120404-MM	12.9	12.7	4.76	5.16	0.4				●	▲	●	●	▲	●				
	CNMG120408-MM	12.9	12.7	4.76	5.16	0.8				●	▲	●	●	▲	●				
	CNMG160608-MM	16.1	15.875	6.35	6.35	0.8				●	▲	●	●	▲	●				
	CNMG090308-MF	9.7	9.525	3.18	3.81	0.8				▲	●	●	▲	●					
	CNMG120408-MF	12.9	12.7	4.76	5.16	0.8				▲	●	●	▲	●					
	CNMG120412-MF	12.9	12.7	4.76	5.16	1.2				▲	●	●	▲	●					
	CNMG160612-MF	16.1	15.875	6.35	6.35	1.6				▲									
	CNMG120404-SM	12.9	12.7	4.76	5.16	0.4				▲								●	
	CNMG120408-SM	12.9	12.7	4.76	5.16	0.8				▲								●	
	CNMG120412-SM	12.9	12.7	4.76	5.16	1.2		●	●	▲	▲							●	
	CNMG120408-PR	12.9	12.7	4.76	5.16	0.8		●	●	▲	▲							●	
	CNMG120412-PR	12.9	12.7	4.76	5.16	1.2		●	●	▲	▲							●	
	CNMG120416-PR	12.9	12.7	4.76	5.16	1.6		●	●	▲	▲							●	
	CNMG160608-PR	16.1	15.875	6.35	6.35	0.8		●	●	▲	▲							●	
	CNMG160612-PR	16.1	15.875	6.35	6.35	1.2		●	●	▲	▲							●	
	CNMG160616-PR	16.1	15.875	6.35	6.35	1.6		●	●	▲	▲							●	
	CNMG190608-PR	19.3	19.05	6.35	7.94	0.8		●	●	▲	▲							●	
	CNMG190612-PR	19.3	19.05	6.35	7.94	1.2		●	●	▲	▲							●	
	CNMG190616-PR	19.3	19.05	6.35	7.94	1.6													
	CNMM190616-PR	19.3	19.05	6.35	7.94	1.6													



C

D

E

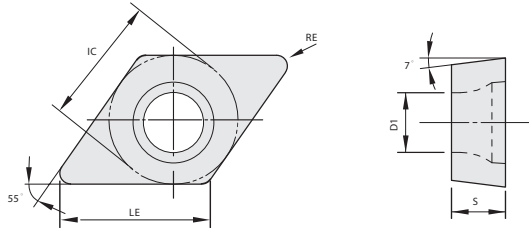
Turning Insert (Negative) CN □ □



Insert Shape	Type	Dimension					P					M				K			S
		LE	IC	S	D1	RE	N150	N250	N151	N251	NZ53P	M315	PA205	PA215	PA315	K051	K152	K311	PA105
	Semi Finishing	CNMG120404 GH	12.9	12.7	4.76	5.16	0.4	●	●	●	▲					●	▲	●	
	CNMG120408 GH	12.9	12.7	4.76	5.16	0.8	●	●	●	▲					●	▲	●		
	CNMG120412 GH	12.9	12.7	4.76	5.16	1.2	●	●	●	▲					●	▲	●		
	CNMG160608 GH	16.1	15.875	6.35	6.35	0.8	●	●	●	▲					●	▲	●		
	CNMG160612 GH	16.1	15.875	6.35	6.35	1.2	●	●	●	▲					●	▲	●		
	CNMG160616 GH	16.1	15.875	6.35	6.35	1.6	●	●	●	▲					●	▲	●		
	CNMG190608 GH	19.3	19.05	6.35	7.94	0.8	●	●	●	▲					●	▲	●		
	CNMG190612 GH	19.3	19.05	6.35	7.94	1.2	●	●	●	▲					●	▲	●		
	CNMG190616 GH	19.3	19.05	6.35	7.94	1.6	●	●	●	▲					●	▲	●		
	Roughing	CNMA120404	12.9	12.7	4.76	5.16	0.4								●	▲	●		
	CNMA120408	12.9	12.7	4.76	5.16	0.8									●	▲	●		
	CNMA120412	12.9	12.7	4.76	5.16	1.2									●	▲	●		
	CNMA120416	12.9	12.7	4.76	5.16	1.6									●	▲	●		
	CNMA160608	16.1	15.875	6.35	6.35	0.8									●	▲	●		
	CNMA160612	16.1	15.875	6.35	6.35	1.2									●	▲	●		
	CNMA160616	16.1	15.875	6.35	6.35	1.6									●	▲	●		
	CNMA160620	16.1	15.875	6.35	6.35	2.0									●	▲	●		
	CNMA190612	19.3	19.05	6.35	7.94	1.2									●	▲	●		
	CNMA190616	19.3	19.05	6.35	7.94	1.6									●	▲	●		

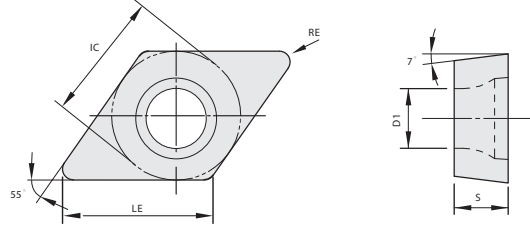
▲ Featured grade ● Optional grade



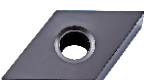


Turning Insert (Negative) DN □ □



Insert Shape	Type	Dimension					P					M			K			S		
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	DNMG110404-PF	11.6	9.525	4.76	3.81	0.4	▲	●		▲										
	DNMG110408-PF	11.6	9.525	4.76	3.81	0.8	▲	●		▲										
	DNMG150404-PF	15.5	12.7	4.76	5.16	0.4	▲	●		▲										
	DNMG150408-PF	15.5	12.7	4.76	5.16	0.8	▲	●		▲										
	DNMG150604-PF	15.5	12.7	6.35	5.16	0.4	▲	●		▲										
	DNMG150608-PF	15.5	12.7	6.35	5.16	0.8	▲	●		▲										
	DNMG110404-MSF	11.6	9.525	4.76	3.81	0.4				●	▲	●	▲	●						
	DNMG150404-MSF	15.5	12.7	4.76	5.16	0.4				●	▲	●	▲	●						
	DNMG150604-MF2	15.5	12.7	6.35	5.16	0.4				●	▲	●	▲	●						
	DNMG150608-MF2	15.5	12.7	6.35	5.16	0.8				●	▲	●	▲	●						
	DNMG110404-PM	11.6	9.525	4.76	3.81	0.4	●	▲		▲								●		
	DNMG110408-PM	11.6	9.525	4.76	3.81	0.8	●	▲		▲								●		
	DNMG110412-PM	11.6	9.525	4.76	3.81	1.2	●	▲		▲								●		
	DNMG150404-PM	15.5	12.7	4.76	5.16	0.4	●	▲		▲								●		
	DNMG150408-PM	15.5	12.7	4.76	5.16	0.8	●	▲		▲								●		
	DNMG150412-PM	15.5	12.7	4.76	5.16	1.2	●	▲		▲								●		
	DNMG150604-PM	15.5	12.7	6.35	5.16	0.4	●	▲		▲								●		
	DNMG150608-PM	15.5	12.7	6.35	5.16	0.8	●	▲		▲								●		
	DNMG150612-PM	15.5	12.7	6.35	5.16	1.2	●	▲		▲								●		
	DNMG110404-MM	11.6	9.525	4.76	3.81	0.4		●	●	▲	●	▲	●							
	DNMG110408-MM	11.6	9.525	4.76	3.81	0.8		●	●	▲	●	▲	●							
	DNMG150404-MM	15.5	12.7	4.76	5.16	0.4		●	●	▲	●	▲	●							
	DNMG150408-MM	15.5	12.7	4.76	5.16	0.8		●	●	▲	●	▲	●							
	DNMG150604-MM	15.5	12.7	6.35	5.16	0.4		●	●	▲	●	▲	●							
	DNMG150608-MM	15.5	12.7	6.35	5.16	0.8		●	●	▲	●	▲	●							
	DNMG150612-MM	15.5	12.7	6.35	5.16	1.2		●	●	▲	●	▲	●							
	DNMG110408-MF	11.6	9.525	4.76	3.81	0.8						●	▲	●						
	DNMG150408-MF	15.5	12.7	4.76	5.16	0.8						●	▲	●						
DNMG150608-MF	15.5	12.7	6.35	5.16	0.8						●	▲	●							

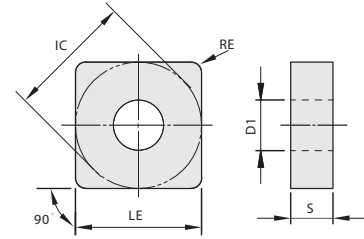
Turning Insert (Negative) DN□□



Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	NI50	N250	NI51	N251	NZ53P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Roughing	DNMG150408-PR	15.5	12.7	4.76	5.16	0.8	●	●	▲	▲							●		
		DNMG150412-PR	15.5	12.7	4.76	5.16	1.2	●	●	▲	▲							●		
		DNMG150608-PR	15.5	12.7	6.35	5.16	0.8	●	●	▲	▲							●		
		DNMG150612-PR	15.5	12.7	6.35	5.16	1.2	●	●	▲	▲							●		
		DNMG150616-PR	15.5	12.7	6.35	5.16	1.6	●	●	▲	▲							●		
	Semi-Finishing	DNMG110408 GH	11.6	9.525	4.76	3.81	0.8			●	●	▲					●	▲	●	
		DNMG150404 GH	15.5	12.7	4.76	5.16	0.4			●	●	▲					●	▲	●	
		DNMG150408 GH	15.5	12.7	6.35	5.16	0.8			●	●	▲					●	▲	●	
		DNMG150412 GH	15.5	12.7	6.35	5.16	1.2			●	●	▲					●	▲	●	
		DNMG150608 GH	15.5	12.7	6.35	5.16	0.8			●	●	▲					●	▲	●	
		DNMG150612 GH	15.5	12.7	6.35	5.16	1.2			●	●	▲					●	▲	●	
	Roughing	DNMA110416	11.6	9.525	4.76	3.81	1.6										●	▲	●	
		DNMA150404	15.5	12.7	4.76	5.16	0.4										●	▲	●	
		DNMA150408	15.5	12.7	4.76	5.16	0.8										●	▲	●	
		DNMA150604	15.5	12.7	6.35	5.16	0.4										●	▲	●	
		DNMA150608	15.5	12.7	6.35	5.16	0.8										●	▲	●	
		DNMA150612	15.5	12.7	6.35	5.16	1.2										●	▲	●	
		DNMA150616	15.5	12.7	6.35	5.16	1.6										●	▲	●	
 	Finishing	SNMG120404-PF	12.7	12.7	4.76	5.16	0.4			▲	●	▲								
		SNMG120408-PF	12.7	12.7	4.76	5.16	0.8			▲	●	▲								
		SNMG120408-MF2	12.7	12.7	4.76	5.16	0.8						●	●	▲	▲				

▲ Featured grade ● Optional grade

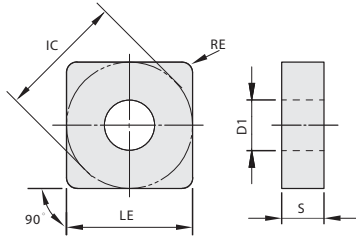
Turning Insert (Negative) SN□□







Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	SNMG120404-PM	12.7	12.7	4.76	5.16	0.4			●	▲	▲								●	
	SNMG120408-PM	12.7	12.7	4.76	5.16	0.8			●	▲	▲								●	
	SNMG120412-PM	12.7	12.7	4.76	5.16	1.2			●	▲	▲								●	
	SNMG150608-PM	15.875	15.875	6.35	6.35	0.8			●	▲	▲								●	
	SNMG150612-PM	15.875	15.875	6.35	6.35	1.2			●	▲	▲								●	
	SNMG190612-PM	19.05	19.05	6.35	7.94	1.2			●	▲	▲								●	
	SNMG120404-MM	12.7	12.7	4.76	5.16	0.4			●	▲	●	●	▲	●						
	SNMG120408-MM	12.7	12.7	4.76	5.16	0.8			●	▲	●	●	▲	●						
	SNMG120412-MM	12.7	12.7	4.76	5.16	1.2			●	▲	●	●	▲	●						
	SNMG150608-MM	15.875	15.875	6.35	6.35	0.8			●	▲	●	●	▲	●						
	SNMG120408-MF	12.7	12.7	4.76	5.16	0.8					●	●	▲	●						
	SNMG120408-SM	12.7	12.7	4.76	5.16	0.8														●

▲ Featured grade ● Optional grade

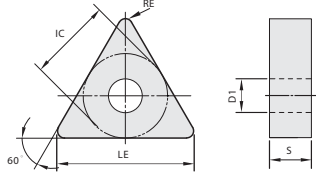
Turning Insert (Negative) SN□□



Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Roughing	SNMG120408-PR	12.7	12.7	4.76	5.16	0.8	●	●	▲	▲							●		
		SNMG120412-PR	12.7	12.7	4.76	5.16	1.2	●	●	▲	▲							●		
		SNMG150608-PR	15.875	15.875	6.35	6.35	0.8	●	●	▲	▲							●		
		SNMG150612-PR	15.875	15.875	6.35	6.35	1.2	●	●	▲	▲							●		
		SNMG190612-PR	19.05	19.05	6.35	7.94	1.2	●	●	▲	▲							●		
		SNMG190616-PR	19.05	19.05	6.35	7.94	1.6	●	●	▲	▲							●		
	Roughing	SNMM190624-PR	19.05	19.05	6.35	7.94	2.4	●	●	▲	▲						●			
		SNMM250924-PR	25.4	25.4	9.525	9.12	2.4	●	●	▲	▲						●			
	Semi-Finishing	SNMG090304 GH	9.525	9.525	3.18	3.81	0.4				●	▲				●	▲	●		
		SNMG090308 GH	9.525	9.525	3.18	3.81	0.8				●	▲				●	▲	●		
		SNMG120404 GH	12.7	12.7	4.76	5.16	0.4				●	▲				●	▲	●		
		SNMG120408 GH	12.7	12.7	4.76	5.16	0.8				●	▲				●	▲	●		
		SNMG120412 GH	12.7	12.7	4.76	5.16	1.2				●	▲				●	▲	●		
		SNMG120416 GH	12.7	12.7	4.76	5.16	1.6				●	▲				●	▲	●		
		SNMG150608 GH	15.875	15.875	6.35	6.35	0.8				●	▲				●	▲	●		
		SNMG150612 GH	15.875	15.875	6.35	6.35	1.2				●	▲				●	▲	●		
		SNMG190612 GH	19.05	19.05	6.35	7.94	1.2	●	●	▲	▲						●			
		SNMG190616 GH	19.05	19.05	6.35	7.94	1.6	●	●	▲	▲						●			
		SNMG250724 GH	25.4	25.4	7.94	9.12	2.4	●	●	▲	▲						●			
		SNMG250924 GH	25.4	25.4	9.525	9.12	2.4	●	●	▲	▲						●			
	Roughing	SNMA120408	12.7	12.7	4.76	5.16	0.8									●	▲	●		
		SNMA120412	12.7	12.7	4.76	5.16	1.2									●	▲	●		
		SNMA120416	12.7	12.7	4.76	5.16	1.6									●	▲	●		
		SNMA150608	15.875	15.875	6.35	6.35	0.8									●	▲	●		
		SNMA150612	15.875	15.875	6.35	6.35	1.2									●	▲	●		
		SNMA190612	19.05	19.05	6.35	7.94	1.2									●	▲	●		
		SNMA190616	19.05	19.05	6.35	7.94	1.6									●	▲	●		

▲ Featured grade ● Optional grade

Turning Insert (Negative) TN □ □



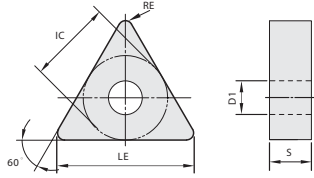
B

Insert Shape	Type	Dimension					P					M			K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105
	TNMG160404-PF	16.5	9.525	4.76	3.81	0.4			▲	●	▲								
	TNMG160408-PF	16.5	9.525	4.76	3.81	0.8			▲	●	▲								
	TNMG160404-MF2	16.5	9.525	4.76	3.81	0.4						●	●	▲	●				
	TNMG160408-MF2	16.5	9.525	4.76	3.81	0.8						●	●	▲	●				
	TNMG160404-MSF	16.5	9.525	4.76	3.81	0.4						●	●	▲	●				
	TNMG160404-PM	16.5	9.525	4.76	3.81	0.4			●	▲	▲							●	
	TNMG160408-PM	16.5	9.525	4.76	3.81	0.8			●	▲	▲							●	
	TNMG160412-PM	16.5	9.525	4.76	3.81	1.2			●	▲	▲							●	
	TNMG220404-PM	22	12.7	4.76	5.16	0.4			●	▲	▲							●	
	TNMG220408-PM	22	12.7	4.76	5.16	0.8			●	▲	▲							●	
	TNMG220412-PM	22	12.7	4.76	5.16	1.2			●	●	▲							●	
	TNMG220416-PM	22	12.7	4.76	5.16	1.6			●	●	▲							●	
20	TNMG160404-MM	16.5	9.525	4.76	3.81	0.4				●	▲	●	●	▲	●				
	TNMG160408-MM	16.5	9.525	4.76	3.81	0.8				●	▲	●	●	▲	●				
	TNMG160412-MM	16.5	9.525	4.76	3.81	1.2				●	▲	●	●	▲	●				
	TNMG220404-MM	22	12.7	4.76	5.16	0.4				●	▲	●	●	▲	●				
	TNMG220408-MM	22	12.7	4.76	5.16	0.8				●	▲	●	●	▲	●				
	TNMG220412-MM	22	12.7	4.76	5.16	1.2				●	▲	●	●	▲	●				
	TNMG160404-MF	16.5	9.525	4.76	3.81	0.4						●	●	▲	●				
	TNMG160408-MF	16.5	9.525	4.76	3.81	0.8						●	●	▲	●				
	TNMG160412-MF	16.5	9.525	4.76	3.81	1.2						●	●	▲	●				

▲ Featured grade ● Optional grade

E

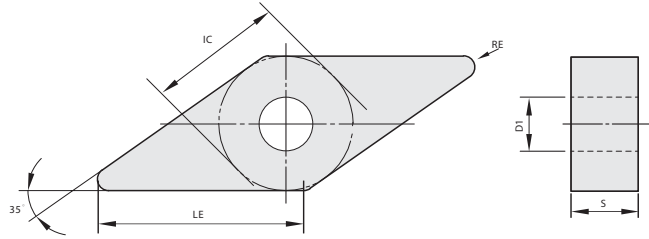
Turning Insert (Negative) TN □ □



Insert Shape	Type	Dimension					P					M				K			S			
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105			
	Roughing	TNMG160404-PR	16.5	9.525	4.76	3.81	0.4	●	●	▲	▲							●				
		TNMG160408-PR	16.5	9.525	4.76	3.81	0.8	●	●	▲	▲								●			
		TNMG160412-PR	16.5	9.525	4.76	3.81	1.2	●	●	▲	▲								●			
		TNMG160416-PR	16.5	9.525	4.76	3.81	1.6	●	●	▲	▲								●			
		TNMG220408-PR	22	12.7	4.76	5.16	0.8	●	●	▲	▲									●		
		TNMG220412-PR	22	12.7	4.76	5.16	1.2	●	●	▲	▲									●		
		TNMG220416-PR	22	12.7	4.76	5.16	1.6	●	●	▲	▲									●		
TNMG270612-PR	27.5	15.875	6.35	6.35	1.2	●	●	▲	▲									●				
	Semi-Finishing	TNMG160408 GH	16.5	9.525	4.76	3.81	0.8	●	●	●	▲						●	▲	●			
		TNMG160412 GH	16.5	9.525	4.76	3.81	1.2	●	●	●	▲						●	▲	●			
		TNMG220404 GH	22	12.7	4.76	5.16	0.4	●	●	●	▲						●	▲	●			
		TNMG220408 GH	22	12.7	4.76	5.16	0.8	●	●	●	▲						●	▲	●			
		TNMG220412 GH	22	12.7	4.76	5.16	1.2	●	●	●	▲						●	▲	●			
		TNMG220416 GH	22	12.7	4.76	5.16	1.6	●	●	●	▲						●	▲	●			
	Roughing	TNMA160404	16.5	9.525	4.76	3.81	0.4										●	▲	●			
		TNMA160408	16.5	9.525	4.76	3.81	0.8										●	▲	●			
		TNMA160412	16.5	9.525	4.76	3.81	1.2										●	▲	●			
		TNMA160416	16.5	9.525	4.76	3.81	1.6										●	▲	●			
		TNMA220408	22	12.7	4.76	5.16	0.8										●	▲	●			
		TNMA220412	22	12.7	4.76	5.16	1.2										●	▲	●			
		TNMA220416	22	12.7	4.76	5.16	1.6										●	▲	●			

▲ Featured grade ● Optional grade

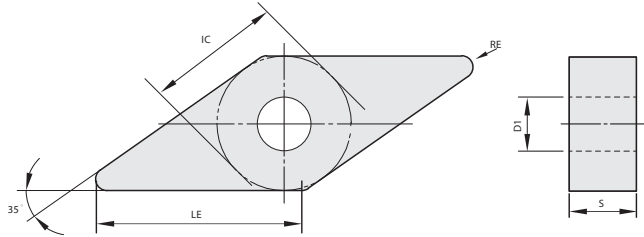
Turning Insert (Negative) VN□□



Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	VNMG160404-PF	16.6	9.525	4.76	3.81	0.4			▲	●	▲									
	VNMG160408-PF	16.6	9.525	4.76	3.81	0.8			▲	●	▲									
	VNMG12T304-EPM	12.40	7.15	3.97	3.81	0.4					▲				▲					
	VNMG12T308-EPM	12.40	7.15	3.97	3.81	0.8					▲				▲					
	VNMG160404-MSF	16.6	9.525	4.76	3.81	0.4						●	●	▲	●					
	VNMG160404-PM	16.6	9.525	4.76	3.81	0.4			●	▲	▲							●		
	VNMG160408-PM	16.6	9.525	4.76	3.81	0.8			●	▲	▲							●		
	VNMG160412-PM	16.6	9.525	4.76	3.81	1.2			●	▲	▲							●		
	VNMG160404-MM	16.6	9.525	4.76	3.81	0.4			●	▲	●	●	▲	●						
	VNMG160408-MM	16.6	9.525	4.76	3.81	0.8			●	▲	●	●	▲	●						
	VNMG160408-MF2	16.6	9.525	4.76	3.81	0.8						●	●	▲	●					

▲Featured grade ●Optional grade

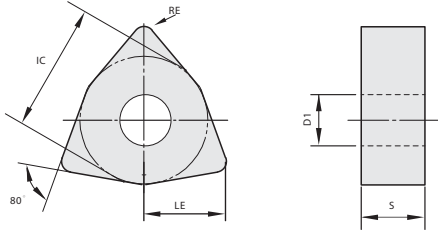
Turning Insert (Negative) VN □ □



Insert Shape	Type	Dimension					P					M			K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105
	Roughing	VNMG160408-PR	16.6	9.525	4.76	3.81	0.4	●	●	▲	▲						●		
		VNMG160412-PR	16.6	9.525	4.76	3.81	0.8	●	●	▲	▲						●		
	Semi-Finishing	VNMG160404 GH	16.6	9.525	4.76	3.81	0.4	●	●							●	▲	●	
		VNMG160408 GH	16.6	9.525	4.76	3.81	0.8	●	●							●	▲	●	
	Roughing	VNMA160404	16.6	9.525	4.76	3.81	0.4									●	▲	●	
		VNMA160408	16.6	9.525	4.76	3.81	0.8									●	▲	●	
	Finishing	WNMG060404-PF	6.5	9.525	4.76	3.81	0.4			▲	●	▲							
		WNMG060408-PF	6.5	9.525	4.76	3.81	0.8			▲	●	▲							
		WNMG080404-PF	8.7	12.7	4.76	5.16	0.4			▲	●	▲							
		WNMG080408-PF	8.7	12.7	4.76	5.16	0.8			▲	●	▲							
	Finishing	WNMG060408-MF2	6.5	9.525	4.76	3.81	0.8					●	●	▲	●				
		WNMG080404-MF2	8.7	12.7	4.76	5.16	0.4					●	●	▲	●				
		WNMG080408-MF2	8.7	12.7	4.76	5.16	0.8					●	●	▲	●				
	Finishing	WNMG060304-MSF	6.5	9.525	3.18	3.81	0.4					●	●	▲	●				
		WNMG060404-MSF	6.5	9.525	4.76	3.81	0.4					●	●	▲	●				
		WNMG080404-MSF	8.7	12.7	4.76	5.16	0.4					●	●	▲	●				

▲ Featured grade ● Optional grade

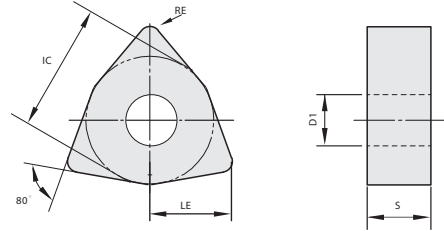
Turning Insert (Negative) WN □ □






Insert Shape	Type	Dimension					P					M			K			S			
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105		
	WNMG060408-PM	6.5	9.525	4.76	3.81	0.8			●	▲	▲								●		
	WNMG080404-PM	8.7	12.7	4.76	5.16	0.4			●	▲	▲								●		
	WNMG080408-PM	8.7	12.7	4.76	5.16	0.8			●	▲	▲								●		
	WNMG080412-PM	8.7	12.7	4.76	5.16	1.2			●	▲	▲								●		
	Semi Finishing	WNMG060408-MM	6.5	9.525	4.76	3.81	0.8				●	●	●	▲	●						
		WNMG060412-MM	6.5	9.525	4.76	3.81	1.2				●	●	●	▲	●						
		WNMG080404-MM	8.7	12.7	4.76	5.16	0.4				●	●	●	▲	●						
		WNMG080408-MM	8.7	12.7	4.76	5.16	0.8				●	●	●	▲	●						
		WNMG080412-MM	8.7	12.7	4.76	5.16	1.2				●	●	●	▲	●						
	WNMG060408-MF	6.5	9.525	4.76	3.81	0.8						●	●	▲	●						
	WNMG080408-MF	8.7	12.7	4.76	5.16	0.8						●	●	▲	●						
	WNMG080412-MF	8.7	12.7	4.76	5.16	1.2						●	●	▲	●						

▲Featured grade ●Optional grade

Turning Insert (Negative) WN□□



Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Roughing	WNMG080408-PR	8.7	12.7	4.76	5.16	0.8	●	●	▲	▲							●		
		WNMG080412-PR	8.7	12.7	4.76	5.16	1.2	●	●	▲	▲							●		
	Semi-Finishing	WNMG080404 GH	8.7	12.7	4.76	5.16	0.4	●	●	●	▲					●	▲	●		
		WNMG080408 GH	8.7	12.7	4.76	5.16	0.8	●	●	●	▲					●	▲	●		
		WNMG080412 GH	8.7	12.7	4.76	5.16	1.2	●	●	●	▲					●	▲	●		
	Roughing	WNMA060404	6.5	9.525	4.76	3.81	0.4									●	▲	●		
		WNMA060412	6.5	9.525	4.76	3.81	1.2									●	▲	●		
		WNMA080408	8.7	12.7	4.76	5.16	0.8									●	▲	●		
		WNMA080412	8.7	12.7	4.76	5.16	1.2									●	▲	●		
		WNMA080416	8.7	12.7	4.76	5.16	1.6									●	▲	●		

▲Featured grade ●Optional grade

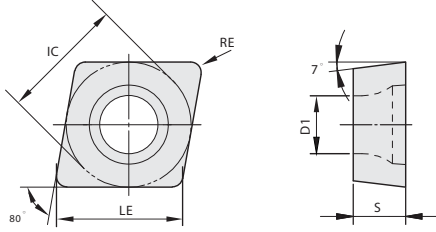
B



C

D

E

Turning Insert (Positive) CC□□



Insert Shape	Type	Dimension					P					M			K			S			
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105		
	Finishing	CCMT060202-TF	6.4	6.35	2.38	2.8	0.2			▲	●	▲			▲	●					
		CCMT060204-TF	6.4	6.35	2.38	2.8	0.4			▲	●	▲			▲	●					
		CCMT060208-TF	6.4	6.35	2.38	2.8	0.8			▲	●	▲			▲	●					
		CCMT09T304-TF	9.7	9.525	3.97	4.4	0.4			▲	●	▲			▲	●					
		CCMT09T308-TF	9.7	9.525	3.97	4.4	0.8			▲	●	▲			▲	●					
		CCMT120404-TF	12.9	12.7	4.76	5.5	0.4			▲	●	▲			▲	●					
	Semi-Finishing	CCMT060204-TM	6.4	6.35	2.38	2.8	0.4			●	▲	▲			●	●		●			
		CCMT060208-TM	6.4	6.35	2.38	2.8	0.8			●	▲	▲			●	●		●			
		CCMT09T304-TM	9.7	9.525	3.97	4.4	0.4			●	▲	▲			●	●		●			
		CCMT09T308-TM	9.7	9.525	3.97	4.4	0.8			●	▲	▲			●	●		●			
		CCMT120404-TM	12.9	12.7	4.76	5.5	0.4			●	▲	▲			●	●		●			
		CCMT120408-TM	12.9	12.7	4.76	5.5	0.8			●	▲	▲			●	●		●			

▲ Featured grade ● Optional grade

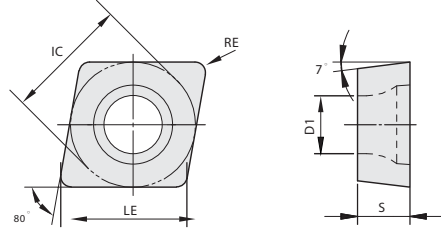
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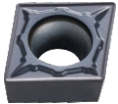

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E

Turning Insert (Positive) CC□□□



Insert Shape	Type	Dimension					P					M			K			S		
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Finishing	CCMT060202-MSF	6.4	6.35	2.38	2.8	0.2							●	▲	●				
		CCMT060204-MSF	6.4	6.35	2.38	2.8	0.4							●	▲	●				
		CCMT09T304-MSF	9.7	9.525	3.97	4.4	0.4							●	▲	●				
		CCMT09T308-MSF	12.9	12.7	4.76	5.5	0.8							●	▲	●				
		CCMT120404-MSF	12.9	12.7	4.76	5.5	0.4							●	▲	●				
	Semi Finishing	CCMT060204-SL	6.4	6.35	2.38	2.8	0.4		●	▲	▲			▲	●					
		CCMT060208-SL	6.4	6.35	2.38	2.8	0.8		●	▲	▲			▲	●					
		CCMT09T304-SL	9.7	9.525	3.97	4.4	0.4		●	▲	▲			▲	●					
		CCMT09T308-SL	9.7	9.525	3.97	4.4	0.8		●	▲	▲			▲	●					
		CCMT120404-SL	12.9	12.7	4.76	5.5	0.4		●	▲	▲			▲	●					
		CCMT120408-SL	12.9	12.7	4.76	5.5	0.8		●	▲	▲			▲	●					
	Roughing	CCMT060208-TR	6.4	6.35	2.38	2.8	0.8		●	▲	▲						▲	●		
		CCMT09T304-TR	9.7	9.525	3.97	4.4	0.4		●	▲	▲						▲	●		
		CCMT09T308-TR	9.7	9.525	3.97	4.4	0.8		●	▲	▲						▲	●		
		CCMT120408-TR	12.9	12.7	4.76	5.5	0.8		●	▲	▲						▲	●		
		CCMT120412-TR	12.9	12.7	4.76	5.5	1.2		●	▲	▲						▲	●		

▲ Featured grade ● Optional grade

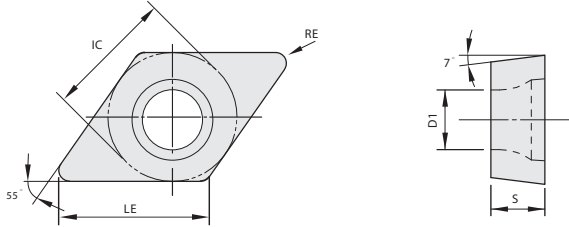
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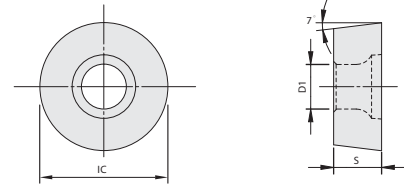
Turning Insert (Positive) DC□□



Insert Shape	Type	Dimension					P					M			K			S		
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Finishing	DCMT070204-TF	7.8	6.35	2.38	2.8	0.4			▲	●	▲			▲	●				
		DCMT070208-TF	7.8	6.35	2.38	2.8	0.8			▲	●	▲			▲	●				
		DCMT11T302-TF	11.6	9.525	3.97	4.4	0.2			▲	●	▲			▲	●				
		DCMT11T304-TF	11.6	9.525	3.97	4.4	0.4			▲	●	▲			▲	●				
		DCMT11T308-TF	11.6	9.525	3.97	4.4	0.8			▲	●	▲			▲	●				
	Semi Finishing	DCMT070204-TM	7.8	6.35	2.38	2.8	0.4			●	▲	▲			●	●		●		
		DCMT070208-TM	7.8	6.35	2.38	2.8	0.8			●	▲	▲			●	●		●		
		DCMT11T304-TM	11.6	9.525	3.97	4.4	0.4			●	▲	▲			●	●		●		
		DCMT11T308-TM	11.6	9.525	3.97	4.4	0.8			●	▲	▲			●	●		●		
	Finishing	DCMT070204-SL	7.8	6.35	2.38	2.8	0.4			●	▲	▲			▲	●				
		DCMT070208-SL	7.8	6.35	2.38	2.8	0.8			●	▲	▲			▲	●				
		DCMT11T304-SL	11.6	9.525	3.97	4.4	0.4			●	▲	▲			▲	●				
		DCMT11T308-SL	11.6	9.525	3.97	4.4	0.8			●	▲	▲			▲	●				
	Roughing	DCMT11T304-TR	11.6	9.525	3.97	4.4	0.4			●	▲	▲						▲	●	
		DCMT11T308-TR	11.6	9.525	3.97	4.4	0.8			●	▲	▲						▲	●	
		DCMT11T312-TR	11.6	9.525	3.97	4.4	1.2			●	▲	▲						▲	●	

▲ Featured grade ● Optional grade

Turning Insert (Positive) RC□□



Insert Shape	Type	Dimension					P					M				K			PA105	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311		
	Semi Finishing	RCMT0803MO	8.0	8.0	3.18	3.4		●		▲	▲	▲								
		RCMT1606MO	16	16	6.35	5.5		●		▲	▲	▲								
	Semi Finishing-Roughing	RCMX0803MO	8.0	8.0	3.18	3.4		●		▲	▲	▲						●		
		RCMX1003MO	10	10	3.18	3.6		●		▲	▲	▲							●	
		RCMX1204MO	12	12	4.76	4.4		●		▲	▲	▲							●	
		RCMX1606MO	16	16	6.35	5.5		●		▲	▲	▲							●	
		RCMX2006MO	20	20	6.35	6.5		●		▲	▲	▲							●	
		RCMX2507MO	25	25	7.94	7.2		●		▲	▲	▲							●	
		RCMX3209MO	32	32	9.52	9.5		●		▲	▲	▲						●		

▲Featured grade ●Optional grade

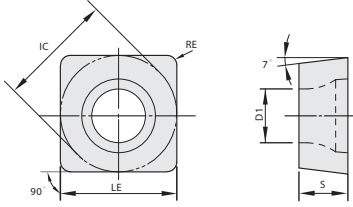
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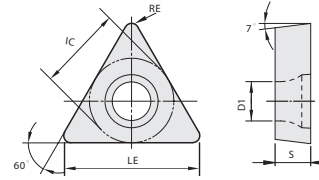
Turning Insert (Positive) SC□□



Insert Shape	Type	Dimension					P					M			K			S		
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Finishing	SCMT09T304-TF	9.525	9.525	3.97	4.4	0.4			▲	●	▲			▲	●				
		SCMT09T308-TF	9.525	9.525	3.97	4.4	0.8			▲	●	▲			▲	●				
		SCMT120404-TF	12.7	12.7	4.76	5.5	0.4			▲	●	▲			▲	●				
	Semi Finishing	SCMT09T304-TM	9.525	9.525	3.97	4.4	0.4			●	▲	▲			●	●		●		
		SCMT09T308-TM	9.525	9.525	3.97	4.4	0.8			●	▲	▲			●	●		●		
		SCMT120404-TM	12.7	12.7	4.76	5.5	0.4			●	▲	▲			●	●		●		
		SCMT120408-TM	12.7	12.7	4.76	5.5	0.8			●	▲	▲			●	●		●		
		SCMT120412-TM	12.7	12.7	4.76	5.5	1.2			●	▲	▲			●	●		●		
	Semi Finishing	SCMT09T304-SL	9.525	9.525	3.97	4.4	0.4			●	▲	▲			▲	●				
		SCMT09T308-SL	9.525	9.525	3.97	4.4	0.8			●	▲	▲			▲	●				
	Roughing	SCMT09T304-TR	9.525	9.525	3.97	4.4	0.4			●		▲						▲	●	
		SCMT09T308-TR	9.525	9.525	3.97	4.4	0.8			●		▲						▲	●	
		SCMT120404-TR	12.7	12.7	4.76	5.5	0.4			●		▲						▲	●	
		SCMT120408-TR	12.7	12.7	4.76	5.5	0.8			●		▲						▲	●	
		SCMT120412-TR	12.7	12.7	4.76	5.5	1.2			●		▲						▲	●	

▲Featured grade ●Optional grade

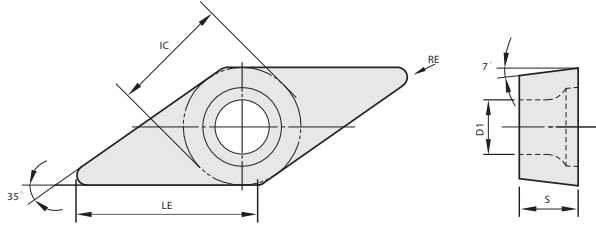
Turning Insert (Positive) TC□□



Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Finishing	TCMT110202-TF	11	6.35	2.38	2.8	0.2			▲	●	▲			▲	●				
		TCMT110204-TF	11	6.35	2.38	2.8	0.4			▲	●	▲			▲	●				
		TCMT16T304-TF	16.5	9.525	3.97	4.4	0.4			▲	●	▲			▲	●				
		TCMT16T308-TF	16.5	9.525	3.97	4.4	0.8			▲	●	▲			▲	●				
	Semi Finishing	TCMT090204-TM	9.6	5.56	2.38	2.5	0.4			●	▲	▲			●	●		●		
		TCMT090208-TM	9.6	5.56	2.38	2.5	0.8			●	▲	▲			●	●		●		
		TCMT110204-TM	11	6.35	2.38	2.8	0.4			●	▲	▲			●	●		●		
		TCMT110208-TM	11	6.35	2.38	2.8	0.8			●	▲	▲			●	●		●		
		TCMT16T304-TM	16.5	9.525	3.97	4.4	0.4			●	▲	▲			●	●		●		
		TCMT16T308-TM	16.5	9.525	3.97	4.4	0.8			●	▲	▲			●	●		●		
		TCMT16T312-TM	16.5	9.525	3.97	4.4	1.2			●	▲	▲			●	●		●		
	Semi Finishing	TCMT110204-SL	11	6.35	2.38	2.8	0.4			●	▲	▲			▲	●				
		TCMT110208-SL	11	6.35	2.38	2.8	0.8			●	▲	▲			▲	●				
		TCMT16T304-SL	16.5	9.525	3.97	4.4	0.4			●	▲	▲			▲	●				
		TCMT16T308-SL	16.5	9.525	3.97	4.4	0.8			●	▲	▲			▲	●				
	Roughing	TCMT16T304-TR	16.5	9.525	3.97	4.4	0.4			●	▲	▲						▲	●	
		TCMT16T308-TR	16.5	9.525	3.97	4.4	0.8			●	▲	▲						▲	●	
		TCMT16T312-TR	16.5	9.525	3.97	4.4	1.2			●	▲	▲						▲	●	
		TCMT220408-TR	22	12.7	4.76	5.5	0.8			●	▲	▲						▲	●	

▲Featured grade ●Optional grade

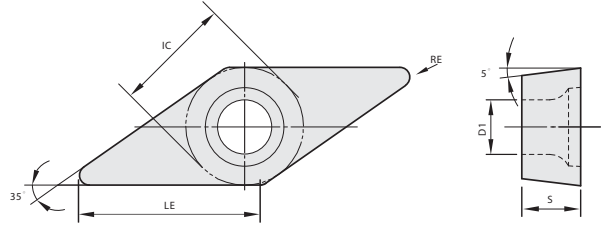
Turning Insert (Positive) VC□□



Insert Shape	Type	Dimension					P					M			K			S		
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Finishing	VCMT110302-TF	11	6.35	3.18	2.8	0.2		▲	●	▲			▲	●					
		VCMT110304-TF	11	6.35	3.18	2.8	0.4		▲	●	▲			▲	●					
		VCMT160404-TF	16.5	9.525	4.76	4.4	0.4		▲	●	▲			▲	●					
	Finishing	VCGT160408-SF	16.5	9.525	4.76	4.4	0.8												●	
	Semi Finishing	VCMT160404-TM	16.5	9.525	4.76	4.4	0.4		●	▲	▲			●	●		●			
		VCMT160408-TM	16.5	9.525	4.76	4.4	0.8		●	▲	▲			●	●		●			
	Semi Finishing	VCMT160408-SM	16.5	9.525	4.76	4.4	0.8												●	

▲ Featured grade ● Optional grade

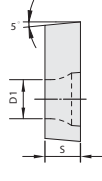
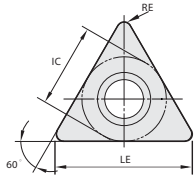
Turning Insert (Positive) VB□□



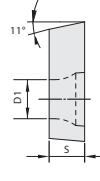
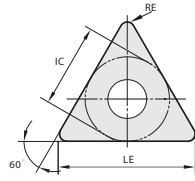
Insert Shape	Type	Dimension					P					M				K			S	
		LE	IC	S	D1	RE	N150	N250	N151	N251	N253P	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
	Finishing	VBMT160404-TF	16.5	9.525	4.76	4.4	0.4		▲	●	▲				▲	●				
		VBMT160408-TF	16.5	9.525	4.76	4.4	0.8		▲	●	▲				▲	●				
		VBMT110304-TM	11	6.35	3.18	2.8	0.4		●	▲	▲				●	●		●		
		VBMT110308-TM	11	6.35	3.18	2.8	0.8		●	▲	▲				●	●		●		
		VBMT160404-TM	16.5	9.525	4.76	4.4	0.4		●	▲	▲				●	●		●		
		VBMT160408-TM	16.5	9.525	4.76	4.4	0.8		●	▲	▲				●	●		●		
		VBMT160412-TM	16.5	9.525	4.76	4.4	1.2		●	▲	▲				●	●		●		
	Semi Finishing	VBMT160404-SM	16.5	9.525	4.76	4.4	0.4		●	▲	▲				●	●		●		
		VBMT160408-SM	16.5	9.525	4.76	4.4	0.8		●	▲	▲				●	●		●		
		VBMT160404-SL	16.5	9.525	4.76	4.4	0.4		●	▲	▲				▲	●				●
		VBMT160408-SL	16.5	9.525	4.76	4.4	0.8		●	▲	▲				▲	●				●
	Roughing	VBMT160404-TR	16.5	9.525	4.76	4.4	0.4		●	▲	▲							▲	●	
		VBMT160408-TR	16.5	9.525	4.76	4.4	0.8		●	▲	▲							▲	●	
		VBMT160412-TR	16.5	9.525	4.76	4.4	1.2		●	▲	▲							▲	●	

▲ Featured grade ● Optional grade

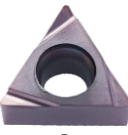
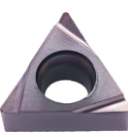
Turning Insert (Positive) TB□□ TP□□



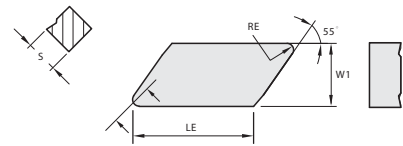
TB




TP

Insert Shape	Type	Dimension					P					M			K		S			
		LE	IC	S	D1	RE	N150	N250	N151	N251	KC220	M315	PA205	PA215	PA315	K051	K152	K311	PA105	
 R	TBGH060202L	6.4	3.97	2.38	2.3	0.2					▲	●								
	TBGH060202R	6.4	3.97	2.38	2.3	0.2					▲	●								
	TBGH060204L	6.4	3.97	2.38	2.3	0.4					▲	●								
	TBGH060204R	6.4	3.97	2.38	2.3	0.4					▲	●								
 L	Finishing	TPGH080202L	8.2	4.76	2.38	2.4	0.2					▲	●							
		TPGH080204L	8.2	4.76	2.38	2.4	0.4					▲	●							
		TPGH090202L	9.6	5.56	2.38	2.8	0.2					▲	●							
		TPGH090204L	9.6	5.56	2.38	2.8	0.4					▲	●							
		TPGH110302L	11	6.35	3.18	3.18	0.2					▲	●							
		TPGH110304L	11	6.35	3.18	3.18	0.4					▲	●							
		TPGH11T302L	11	6.35	3.97	3.18	0.2					▲	●							
		TPGH11T302R	11	6.35	3.97	3.18	0.2					▲	●							
		TPGH11T304L	11	6.35	3.97	3.18	0.4					▲	●							
		TPGH11T304R	11	6.35	3.97	3.18	0.4					▲	●							

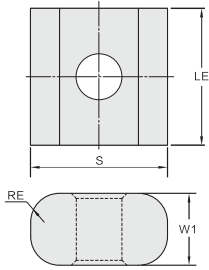
Turning Insert (Positive) KN□□



Insert Shape	Type	Dimension					P				M			K				
		LE	W1	S	D1	RE	N150	N250	N151	N251	M315	PA215	PA205	K105	K152	K151D		
	Semi Finishing	KNUX160405L11	16.2	9.525	4.76	2.2	0.5		●	●		●						
		KNUX160405R11	16.2	9.525	4.76	2.2	0.5		●	●		●						

▲ Featured grade ● Optional grade

Heavy Duty Machining



Insert Shape	Type	Dimension					P					M			K		
		LE	W1	S	D1	RE	N150	N250	N151	N152	N253	M252	Pa215	PA205	K051	K152	K311
	175.32-191940-22	19.1	10	19.1	6.35	4.0	●	●		●	▲						
	175.32-191940-24	19.1	10	19.1	6.35	4.0	●	●		●	▲						
	175.32-191940-28	19.1	10	19.1	6.35	4.0	●	●		●	▲						

▲Featured grade ●Optional grade

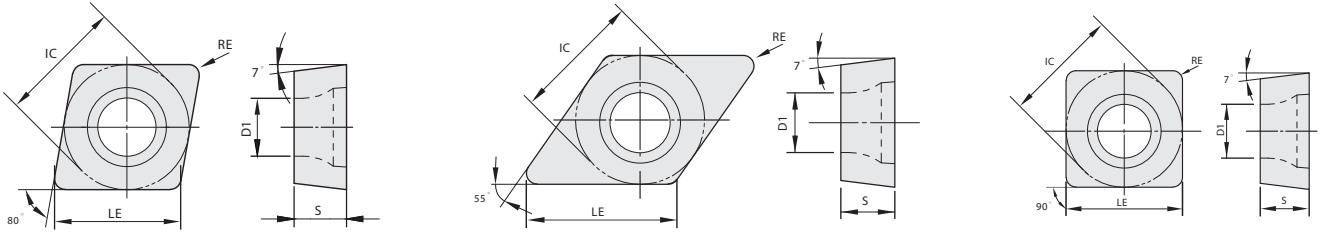
B


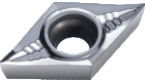

C

D

E

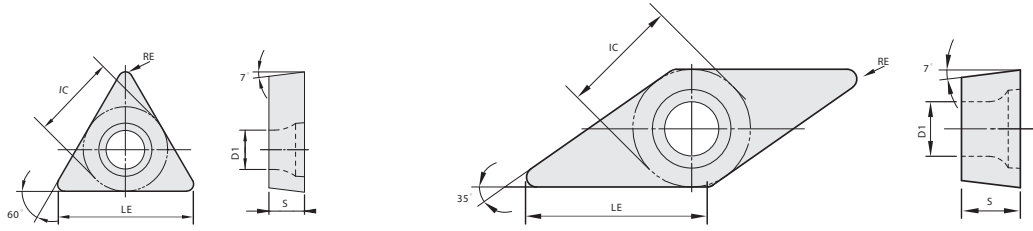
Insert for Aluminum Cutting CC□□ DC□□ SC□□

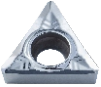



Insert Shape	Type	Dimension					N	
		LE	IC	S	D1	RE	K434	
	Finishing	CCGX060202-NL	6.4	6.35	2.38	2.8	0.2	▲
		CCGX060204-NL	6.4	6.35	2.38	2.8	0.4	▲
		CCGX09T302-NL	9.7	9.525	3.97	4.4	0.2	▲
		CCGX09T304-NL	9.7	9.525	3.97	4.4	0.4	▲
		CCGX09T308-NL	9.7	9.525	3.97	4.4	0.8	▲
		CCGX120404-NL	12.9	12.7	4.76	5.5	0.4	▲
	Finishing	DCGX070202-NL	7.8	6.35	2.38	2.8	0.2	▲
		DCGX070204-NL	7.8	6.35	2.38	2.8	0.4	▲
		DCGX11T302-NL	11.6	9.525	3.97	4.4	0.2	▲
		DCGX11T304-NL	11.6	9.525	3.97	4.4	0.4	▲
		DCGX11T308-NL	11.6	9.525	3.97	4.4	0.8	▲
	Finishing	SCGX09T304-NL	9.525	9.525	3.97	4.4	0.4	▲
		SCGX09T308-NL	9.525	9.525	3.97	4.4	0.8	▲
		SCGX120408-NL	12.7	12.7	4.76	5.5	0.8	▲

▲ Featured grade ● Optional grade

Insert for Aluminum Cutting TC□□ VC□□



Insert Shape	Type	Dimension					N	
		LE	IC	S	D1	RE	OK434	
	TCGX090204-NL	9.6	5.56	2.38	2.5	0.4	▲	
	TCGX110202-NL	11	6.35	2.38	2.8	0.2	▲	
	TCGX110204-NL	11	6.35	2.38	2.8	0.4	▲	
	TCGX16T304-NL	16.5	9.525	3.97	4.4	0.4	▲	
	TCGX16T308-NL	16.5	9.525	3.97	4.4	0.8	▲	
	Finishing	VCGX110302-NL	11	6.35	3.18	2.8	0.2	▲
		VCGX110304-NL	11	6.35	3.18	2.8	0.4	▲
		VCGX160402-NL	16.5	9.525	4.76	4.4	0.2	▲
		VCGX160404-NL	16.5	9.525	4.76	4.4	0.4	▲
		VCGX160408-NL	16.5	9.525	4.76	4.4	0.8	▲
		VCGX160412-NL	16.5	9.525	4.76	4.4	1.2	▲
		VCGX220530-NL	22	12.7	5.56	5.5	3	▲

▲ Featured grade ● Optional grade

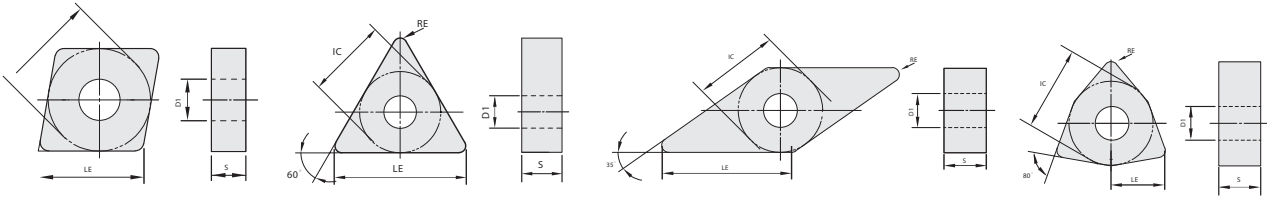
B

C

D

E

Cermet Inserts



Insert Shape	Type	Dimension					Grade	
		LE	IC	S	D1	RE	KC220	KC210
	CNMG120408-SAL	12.9	12.9	4.76	5.16	0.8	▲	▲
	TNMG160404-SAL	16.5	9.525	4.76	3.81	0.4	▲	▲
	TNMG160408-SAL	16.5	9.525	4.76	3.81	0.8	▲	▲
	VNMG160408-SAL	16.6	9.525	4.76	3.81	0.8	▲	▲
	WNMG080404-SAL	8.7	12.7	4.76	5.16	0.4	▲	▲
	WNMG080408-SAL	8.7	12.7	4.76	5.16	0.8	▲	▲

Semi Finishing

▲ Featured grade ● Optional grade

B

C

D

E