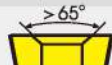
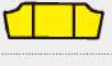
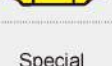
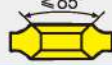
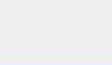


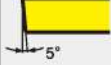
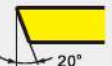
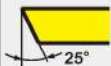
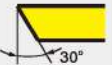
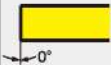
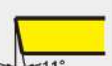


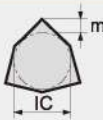
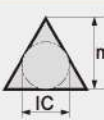
General turning inserts code key

Insert shape/Code		
 A	 B	 C
 D	 E	 H
 K	 L	 M
 O	 P	 R
 S	 T	 T
 V	 W	Others Z
Insert shape		

Metric							
Code	With/Without hole	With/Without chipbreaker	Section plane of insert	Code	With/Without hole	With/Without chipbreaker	Section plane of insert
B	With	Without		N	Without	Without	
H	With	Single-side		R	Without	Single-side	
C	With	Without		F	Without	Double-side	
J	With	Double-side		A	With	Without	
W	With	Without		M	With	Single-side	
T	With	Single-side		G	With	Double-side	
Q	With	Without		X	---	---	Special
U	With	Double-side					
Chipbreaker and clamping system							

T N M G

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A	 3°	B	 5°
C	 7°	D	 15°
E	 20°	F	 25°
G	 30°	N	 0°
P	 11°	O	Other clearance angles

Tolerance										
										
Code	Nose height m Tolerance(mm)	Inscribed circle IC Tolerance(mm)	Thickness S Tolerance(mm)	(Reference) Details of M-level tolerance (Identified by shape)						
				● Nose height tolerance(mm)						
A	±0.005	±0.025	±0.025	Inscribed circle	Regular triangle	Square	Diamond with 80°	Diamond with 55°	Diamond with 35°	Round
F	±0.005	±0.013	±0.025	6.35	±0.08	±0.08	±0.08	±0.11	±0.16	---
C	±0.013	±0.025	±0.025	9.525	±0.08	±0.08	±0.08	±0.11	±0.16	---
H	±0.013	±0.013	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	---	---
E	±0.025	±0.025	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	---	---
G	±0.025	±0.025	±0.13	19.05	±0.15	±0.15	±0.15	±0.18	---	---
J	±0.005	±0.05±0.13	±0.025	25.4	---	±0.18	---	---	---	---
				● Tolerance of inscribed circle IC(mm)						
K	±0.013	±0.05±0.13	±0.025	Inscribed circle	Regular triangle	Square	Diamond with 80°	Diamond with 55°	Diamond with 35°	Round
L	±0.025	±0.05±0.13	±0.025	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	---
M	±0.08±0.18	±0.05±0.13	±0.13	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
N	±0.08±0.18	±0.05±0.13	±0.025	12.7	±0.08	±0.08	±0.08	±0.08	---	±0.08
U	±0.13±0.38	±0.08±0.25	±0.13	15.875	±0.10	±0.10	±0.10	±0.10	---	±0.10
				19.05	±0.10	±0.10	±0.10	±0.10	---	±0.10
				25.4	---	±0.13	---	---	---	±0.13

Diameter of IC	Insert shape							
	C	D	R	S	T	V	W	K
3.97					06			
5.0			05					
5.56					09			
6.0			06					
6.35	06	07			11	11		
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0		19	16					
19.05	19		19	19	33			
20.0			20					
25.0	25	25	25					
25.4			25	25				
31.75			31					
32			32					

Length of cutting edge

Insert thickness

Thickness is defined as the height from the bottom of insert to the highest part of cutting edge

Code	Insert 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	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

22 04 08 - DM (ISO)

4 3 2 (inch)

Inscribed circle	
Code	Diameter of IC(mm)
2	6.35
3	9.525
4	12.7
5	15.875
6	19.05
8	25.4

Thickness	
Code	Thickness (mm)
2	3.18
3	4.76
4	6.35
5	7.94
6	9.52

Nose radius	
Code	Nose radius (mm)
0	0.2
1	0.4
2	0.8
3	1.2
4	1.6
5	2.0
6	2.4

Nose radius code	
Code	Nose radius (mm)
00	No radius
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Others
Diameter of insert (Metric)	Round insert

Chipbreaker code		
DF	DM	DR
		
		
		
		
		



Metric and inch comparison table for negative inserts

C-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	090304	321	
	090308	322	-XF
	120404	431	-XM
	120408	432	-DF
	120412	433	-SF
	120416	434	-EF
	160608	542	-NF
	160612	543	-PM
	160616	544	-DM
	190608	642	-EM
	190612	643	-NM
	190616	644	-DR
	190624	646	-ER
	250724	856	-LR
	250732	858	-HPR
	250924	866	-SNR
	250932	868	

D-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	110404	331	-XF
	110408	332	-XM
	110412	333	-DF
	150404	431	-SF
	150408	432	-EF
	150412	433	-NF
	150604	441	-PM
	150608	442	-DM
	150612	443	-EM
	150616	444	-NM
	190608	542	-DR
	190612	543	-ER
			-HPR
			-SNR

V-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	160404	331	-XF -XM
	160408	332	-DF -EF
	160412	333	-SF -NF
			-PM -DM
			-EM -NM
			-SNR -NGF

R-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	120400	43	

W-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	06T304	3(2.5)1	-XF
	06T308	3(2.5)2	-XM
	06T312	3(2.5)3	-DF
	060404	331	-SF
	060408	332	-EF
	060412	333	-NF
	080404	431	-PM
	080408	432	-DM
	080412	433	-EM
			-NM
			-DR
			-SNR

T-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	110304	221	
	110308	222	-XF
	160404	331	-XM
	160408	332	-DF
	160412	333	-SF
	220404	431	-EF
	220408	432	-NF
	220412	433	-PM
	220416	434	-DM
	270608	542	-EM
	270612	543	-NM
	270616	544	-DR
			-ER
			-HPR

S-type negative angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	090304	321	
	090308	322	
	090312	323	-XF
	120404	431	-XM
	120408	432	-DF
	120412	433	-SF
	120416	434	-EF
	150608	542	-NF
	150612	543	-PM
	150616	544	-DM
	190412	633	-EM
	190424	636	-NM
	190612	643	-DR
	190616	644	-ER
	250724	856	-LR
	250732	858	-HPR
	250924	866	-SNR
	250932	868	

Metric and inch comparison table for positive insert

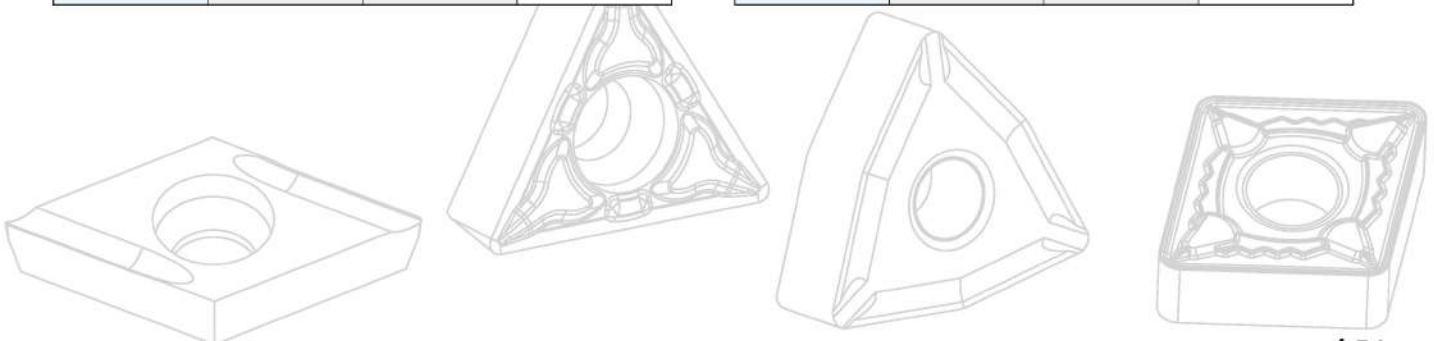
C-type positive angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	060202	2(1.5)0	-XF
	060204	2(1.5)1	-XM
	060208	2(1.5)2	-SF
	09T302	3(2.5)0	-HF
	09T304	3(2.5)1	-EF
	09T308	3(2.5)2	-HM
	120404	431	-EM
	120408	432	-HR
	120412	433	-LH
			-LC

D-type positive angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	070202	2(1.5)0	-XF
	070204	2(1.5)1	-XM
	070208	2(1.5)2	-SF
	11T302	3(2.5)0	-HF
	11T304	3(2.5)1	-EF
	11T308	3(2.5)2	-HM
	11T312	3(2.5)3	-EM
			-HR
			-LH
			-LC

T-type positive angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	06T102	1.2(1.2)0	
	06T104	1.2(1.2)1	
	06T108	1.2(1.2)2	
	090202	1.8(1.5)0	
	090204	1.8(1.5)1	
	090208	1.8(1.5)2	
	110202	2(1.5)0	
	110204	2(1.5)1	
	110208	2(1.5)2	
	110302	220	
	110304	221	
	110308	222	
	16T302	3(2.5)0	
	16T304	3(2.5)1	
	16T308	3(2.5)2	
	16T312	3(2.5)3	
	160400	330	
	220408	432	
	220412	433	
	220416	434	
	270408	532	
	270412	533	
	330612	643	
	330616	644	

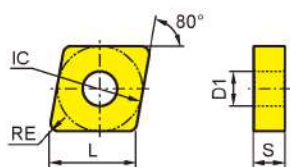
S-type positive angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	060204	2(1.5)1	
	09T302	3(2.5)0	
	09T304	3(2.5)1	
	09T308	3(2.5)2	
	120404	431	
	120408	432	
	120412	433	
	150404	531	
	150408	532	
	150412	533	
	190408	632	
	190412	633	
	190416	634	

V-type positive angle	(ISO)	(Inch)	Chipbreaker
Insert shape 	110202	2(1.5)0	
	110204	2(1.5)1	
	110208	2(1.5)2	
	110302	220	
	110304	221	
	110308	222	
	160402	330	
	160404	331	
	160408	332	
	160412	333	



Cemented carbide and cermet inserts

CN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride coated high speed steel
S Heat resistant alloy, Ti alloy	Aluminum nitride coated high speed steel

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★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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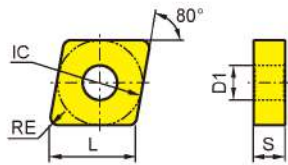


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CN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YB9315	YB9320	YBH053	YBM153	YBM215	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 ADF For finishing	CNMG120404-ADF	12.9	12.7	4.76	5.16	0.4											★	★													
	CNMG120408-ADF	12.9	12.7	4.76	5.16	0.8											★	★													
	CNMG120412-ADF	12.9	12.7	4.76	5.16	1.2											★	★													
 NF For finishing	CNEG120404-NF	12.9	12.7	4.76	5.16	0.4						●	★										★							○	
	CNEG120408-NF	12.9	12.7	4.76	5.16	0.8						○	★																	○	
	CNEG120412-NF	12.9	12.7	4.76	5.16	1.2						○	★																	○	
 PM For semi-finishing	CNMG090304-PM	9.7	9.525	3.18	3.81	0.4		★	○																						
	CNMG090308-PM	9.7	9.525	3.18	3.81	0.8		○	○																	★					
	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		★	○																○						

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

DCLNR/L
KAPR:95°



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PCBNR/L
KAPR:75°



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PCLNR/L
KAPR:95°



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MCBNR/L
KAPR:75°



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MCLNR/L
KAPR:95°



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PCLNR/L
KAPR:95°



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Insert code key

A48-A49

Grade selection reference

A21/A38-A45

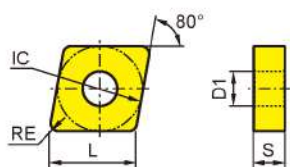
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

😊 Good working condition 😐 Normal working condition 😞 Bad working condition



Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
XM  For semi-finishing	CNMG120404-XM	12.9	12.7	4.76	5.16	0.4	★	★																						
	CNMG120408-XM	12.9	12.7	4.76	5.16	0.8	★	★																						
	CNMG120412-XM	12.9	12.7	4.76	5.16	1.2	★	★																						
	CNMG120416-XM	12.9	12.7	4.76	5.16	1.6	★	★																						
	CNMG160608-XM	16.1	15.875	6.35	6.35	0.8	★	★																						
	CNMG160612-XM	16.1	15.875	6.35	6.35	1.2	★	★																						
	CNMG160616-XM	16.1	15.875	6.35	6.35	1.6	★	★																						
	CNMG190608-XM	19.3	19.05	6.35	7.97	0.8	★	★																						
	CNMG190612-XM	19.3	19.05	6.35	7.97	1.2	★	★																						
	CNMG190616-XM	19.3	19.05	6.35	7.97	1.6	★	★																						
DM  For semi-finishing	CNMG090304-DM	9.7	9.525	3.18	3.81	0.4			○	○										●							●			
	CNMG090308-DM	9.7	9.525	3.18	3.81	0.8				○											●									
	CNMG120404-DM	12.9	12.7	4.76	5.16	0.4			★	★			●				○				●						●			
	CNMG120408-DM	12.9	12.7	4.76	5.16	0.8			★	★			●				●				●						●			
	CNMG120412-DM	12.9	12.7	4.76	5.16	1.2			★	★				○							●									
	CNMG120416-DM	12.9	12.7	4.76	5.16	1.6				○											○									
	CNMG160608-DM	16.1	15.875	6.35	6.35	0.8			★	★											●									
	CNMG160612-DM	16.1	15.875	6.35	6.35	1.2				○	★											○								
	CNMG160616-DM	16.1	15.875	6.35	6.35	1.6			★		○											○								
	CNMG190608-DM	19.3	19.05	6.35	7.94	0.8				○	○											○								
	CNMG190612-DM	19.3	19.05	6.35	7.94	1.2			★	★												○								
	CNMG190616-DM	19.3	19.05	6.35	7.94	1.6					★											○								

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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😊 Good working condition 😐 Normal working condition 😞 Bad working condition

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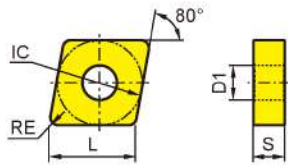
★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

DCNLR/L KAPR:95°	PCBNR/L KAPR:75°	PCLNR/L KAPR:95°	MCBNR/L KAPR:75°	MCLNR/L KAPR:95°	PCLNR/L KAPR:95°

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Recommended cutting parameters

A222-A224

CN (Negative inserts)

P Steel
M Stainless steel
K Cast iron
N Non-ferrous metal
S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
DR  For roughing	CNMM120412-DR	12.9	12.7	4.76	5.16	1.2				○																				
	CNMM160612-DR	16.1	15.875	6.35	6.35	1.2				○																				
	CNMM160616-DR	16.1	15.875	6.35	6.35	1.6				○																				
	CNMM190612-DR	19.3	19.05	6.35	7.94	1.2				○																				
	CNMM190616-DR	19.3	19.05	6.35	7.94	1.6				★																				
	CNMM190624-DR	19.3	19.05	6.35	7.94	2.4				○																				
	CNMM250924-DR	25.79	25.4	9.525	9.12	2.4				★																				
ER  For roughing	CNMG120408-ER	12.9	12.7	4.76	5.16	0.8															★									
	CNMG120412-ER	12.9	12.7	4.76	5.16	1.2																★								
	CNMG160612-ER	16.1	15.875	6.35	6.35	1.2																★								
	CNMG160616-ER	16.1	15.875	6.35	6.35	1.6																★								
	CNMG190612-ER	19.3	19.05	6.35	7.94	1.2																★								
	CNMG190616-ER	19.3	19.05	6.35	7.94	1.6																★								
ER  For roughing	CNMM250724-ER	25.79	25.4	7.94	9.12	2.4			★												★									
	CNMM250732-ER	25.79	25.4	7.94	9.12	3.2			★													★								
	CNMM250924-ER	25.79	25.4	9.525	9.12	2.4			★													★								
	CNMM250932-ER	25.79	25.4	9.525	9.12	3.2			★													★								
SNR  For roughing	CNMG120408-SNR	12.9	12.7	4.76	5.16	0.8					○	●		○							★									
	CNMG120412-SNR	12.9	12.7	4.76	5.16	1.2					○	●		○								★								
	CNMG160608-SNR	16.1	15.875	6.35	6.35	0.8					○	●		○								★								
	CNMG190616-SNR	19.3	19.05	6.35	7.94	1.6					○	●		○								★								

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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Insert code key
A48-A49

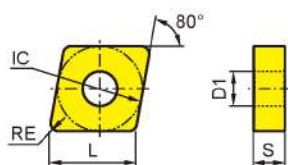
Grade selection reference
A21/A38-A45

Chipbreaker selection reference
A24-A37

Recommended cutting parameters
A222-A224

Cemented carbide and cermet inserts

CN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152C	YNG151	YNG151C	YD101	YD201	
 HDR For heavy machining	CNMM120408-HDR	12.9	12.7	4.76	5.16	0.8			○	○	○																				
	CNMM120412-HDR	12.9	12.7	4.76	5.16	1.2				○	○																				
	CNMM120416-HDR	12.9	12.7	4.76	5.16	1.6					○																				
	CNMM160612-HDR	16.1	15.875	6.35	6.35	1.2					○																				
	CNMM160616-HDR	16.1	15.875	6.35	6.35	1.6				○	○																				
	CNMM190616-HDR	19.3	19.05	6.35	7.94	1.6				○	○																				
	CNMM190624-HDR	19.3	19.05	6.35	7.94	2.4			○	○	○																				
 HPR For heavy machining	CNMM190616-HPR	19.5	19.05	6.35	7.94	1.6			★	○																					
	CNMM250924-HPR	25.19	25.4	9.525	9.12	2.4			★	○																					
 TC	CNMG120404-TC	12.9	12.7	4.76	5.16	0.4																					★				
	CNMG120408-TC	12.9	12.7	4.76	5.16	0.8																					★				
	CNMG120412-TC	12.9	12.7	4.76	5.16	1.2																					★				
	CNMG120416-TC	12.9	12.7	4.76	5.16	1.6																					★				
	CNMG160608-TC	16.1	15.875	6.35	6.35	0.8																					★				
	CNMG160612-TC	16.1	15.875	6.35	6.35	1.2																					★				
	CNMG160616-TC	16.1	15.875	6.35	6.35	1.6																					★				

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

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😊 Good working condition 😐 Normal working condition 😞 Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
Without chipbreaker 	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																				○					
	CNMA160630	16.1	15.875	6.35	6.35	3.0																				○					
	CNMA190612	19.3	19.05	6.35	7.94	1.2																			★	○	★				
	CNMA190616	19.3	19.05	6.35	7.94	1.6																			○	★	★				
All round 	CNMG120404	12.9	12.7	4.76	5.16	0.4																				●		○			
	CNMG120408	12.9	12.7	4.76	5.16	0.8			★	★																	★	★			
	CNMG120412	12.9	12.7	4.76	5.16	1.2			★	★															○	○	○				
	CNMG160608	16.1	15.875	6.35	6.35	0.8																			○						
	CNMG160612	16.1	15.875	6.35	6.35	1.2																				○					
	CNMG160616	16.1	15.875	6.35	6.35	1.6																				○					
	CNMG190608	19.3	19.05	6.35	7.94	0.8																				○					
	CNMG190612	19.3	19.05	6.35	7.94	1.2																				○					
	CNMG190616	19.3	19.05	6.35	7.94	1.6																				○					

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

DCNLR/L KAPR:95°	PCBNR/L KAPR:75°	PCLNR/L KAPR:95°	MCBNR/L KAPR:75°	MCLNR/L KAPR:95°	PCLNR/L KAPR:95°

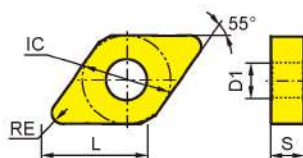
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Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

DN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

[illegible][illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

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😊 Good working condition 😐 Normal working condition ☹ Bad working condition

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

DDJNR/L KAPR:93°	PDJNR/L KAPR:93°	PDPNN KAPR:62°30'	MDJNR/L KAPR:93°	MDPNN KAPR:62°30'	PDPNR/L KAPR:62°30'	PDUNR/L KAPR:93°
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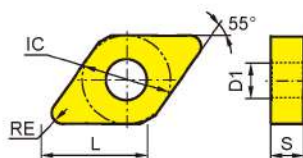
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Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

DN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

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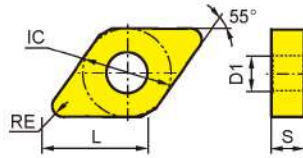


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DN (Negative inserts)



Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
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😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251				YBM253	YBS103	YBD052	YBD102	YBD152	
 Light-load roughing	DNMM150608-LR	15.5	12.7	6.35	5.16	0.8			★																					
	DNMM150612-LR	15.5	12.7	6.35	5.16	1.2			★																					
	DNMM150616-LR	15.5	12.7	6.35	5.16	1.6			★																					
 Light-load roughing	DNMG150408-DR	15.5	12.7	4.76	5.16	0.8			○																					
	DNMG150412-DR	15.5	12.7	4.76	5.16	1.2			○																					
	DNMG150416-DR	15.5	12.7	4.76	5.16	1.6			○																					
	DNMG150608-DR	15.5	12.7	6.35	5.16	0.8			★	○															●	●				
	DNMG150612-DR	15.5	12.7	6.35	5.16	1.2			○	★															○	●				
	DNMG150616-DR	15.5	12.7	6.35	5.16	1.6																				○				
 For roughing	DNMM150608-DR	15.5	12.7	6.35	5.16	0.8			○																					
	DNMM150612-DR	15.5	12.7	6.35	5.16	1.2			○																					
	DNMM150616-DR	15.5	12.7	6.35	5.16	1.6			○																					
 For roughing	DNMG150608-ER	15.5	12.7	6.35	5.16	0.8																★								
	DNMG150612-ER	15.5	12.7	6.35	5.16	1.2																★								

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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Insert code key

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Grade selection reference

A21/A38-A45

Chipbreaker selection reference

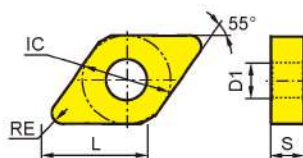
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

DN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	
P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cement	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152C	YNG151	YNG151C	YD101	YD201
 For roughing	DNMM150608-ER	15.5	12.7	6.35	5.16	0.8																★								
	DNMM150612-ER	15.5	12.7	6.35	5.16	1.2																★								
 For roughing	DNMG150608-SNR	15.5	12.7	6.35	5.16	0.8						○●			○								★							
	DNMG150612-SNR	15.5	12.7	6.35	5.16	1.2						○●			○								★							
 For heavy machining	DNMM150608-HDR	15.5	12.7	6.35	5.16	0.8										○														
	DNMM150612-HDR	15.5	12.7	6.35	5.16	1.2											○													
	DNMM150616-HDR	15.5	12.7	6.35	5.16	1.6												○												
	DNMG150404-TC	15.5	12.7	4.76	5.16	0.4																				★				
	DNMG150408-TC	15.5	12.7	4.76	5.16	0.8																				★				
	DNMG150412-TC	15.5	12.7	4.76	5.16	1.2																				★				
	DNMG150608-TC	15.5	12.7	6.35	5.16	0.8																				★				
	DNMG150612-TC	15.5	12.7	6.35	5.16	1.2																				★				

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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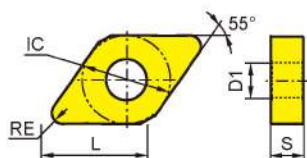
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General turning

😊 Good working condition 😐 Normal working condition 😞 Bad working condition



Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
Without chipbreaker 	DNMA110416	11.6	9.525	4.76	3.81	1.6																									
	DNMA110424	11.6	9.525	4.76	3.81	2.4																									
	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																				○	○				

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

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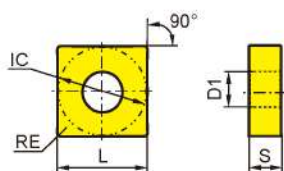
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A222-A224

Cemented carbide and cermet inserts

SN (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	
P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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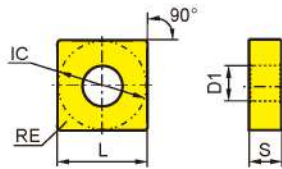


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SN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cermet	Coated cermet	Cemented carbide				
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YB9315	YB9320	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For finishing	SNMG120404-ADF	12.7	12.7	4.76	5.16	0.4										★	★													
	SNMG120408-ADF	12.7	12.7	4.76	5.16	0.8										★	★													
	SNMG120412-ADF	12.7	12.7	4.76	5.16	1.2										★	★													
 For finishing	SNMG090304-SF	9.525	9.525	3.18	3.81	0.4						○															○		★	
	SNMG090308-SF	9.525	9.525	3.18	3.81	0.8						○															○		★	
	SNMG120404-SF	12.7	12.7	4.76	5.16	0.4						○						★									○		★	
	SNMG120408-SF	12.7	12.7	4.76	5.16	0.8						○						★									○		★	
	SNMG120412-SF	12.7	12.7	4.76	5.16	1.2						○															○			
	SNMG150608-SF	15.875	15.875	6.35	6.35	0.8						○															○			

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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Insert code key

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Grade selection reference

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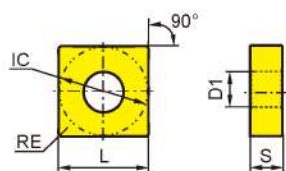
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

SN (Negative inserts)

😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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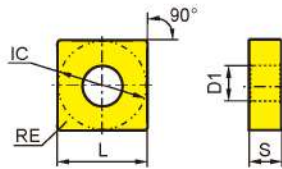
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SN (Negative inserts)

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YBG212	YBG302	YBH053	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
DM  For semi-finishing	SNMG090304-DM	9.525	9.525	3.18	3.81	0.4			○	○																				
	SNMG090308-DM	9.525	9.525	3.18	3.81	0.8			○	○																				
	SNMG120404-DM	12.7	12.7	4.76	5.16	0.4			★	○																				
	SNMG120408-DM	12.7	12.7	4.76	5.16	0.8				○											○						○			
	SNMG120412-DM	12.7	12.7	4.76	5.16	1.2			★	★																				
	SNMG120416-DM	12.7	12.7	4.76	5.16	1.6				○																				
	SNMG150608-DM	15.875	15.875	6.35	6.35	0.8			○	○												●								
	SNMG150612-DM	15.875	15.875	6.35	6.35	1.2			●	★																				
	SNMG150616-DM	15.875	15.875	6.35	6.35	1.6				○																				
	SNMG190612-DM	19.05	19.05	6.35	7.94	1.2			○	○												○								
SNMG190616-DM	19.05	19.05	6.35	7.94	1.6				○																					
EM  For semi-finishing	SNMG120404-EM	12.7	12.7	4.76	5.16	0.4							●	★						★	★									
	SNMG120408-EM	12.7	12.7	4.76	5.16	0.8								●	★						★	★								
	SNMG120412-EM	12.7	12.7	4.76	5.16	1.2								●	★						★	★								
	SNMG120416-EM	12.7	12.7	4.76	5.16	1.6								○	★						○	★								
	SNMG150612-EM	15.875	15.875	6.35	6.35	1.2								●	★						○	★								
	SNMG150616-EM	15.875	15.875	6.35	6.35	1.6								○	★	★					○	★								

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

DSBNR/L KAPR:75°  Page A138	PSBNR/L KAPR:75°  A146	PSDNN KAPR:45°  A147	PSKNR/L KAPR:75°  A148	PSSNR/L KAPR:45°  A149	MSBNR/L KAPR:75°  A158	MSRNR/L KAPR:75°  A159
MSKNR/L KAPR:75°  Page A160	MSDNN KAPR:45°  A161	PSKNR/L KAPR:75°  A197				

Insert code key

A48-A49

Grade selection reference

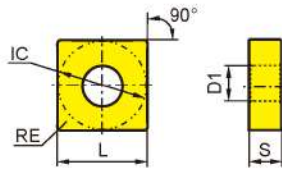
A21/A38-A45

Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

SN (Negative inserts)

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cemented carbide	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
DR  Light-load roughing	SNMG120408-DR	12.7	12.7	4.76	5.16	0.8		○	★																○	○				
	SNMG120412-DR	12.7	12.7	4.76	5.16	1.2			○																○					
	SNMG120416-DR	12.7	12.7	4.76	5.16	1.6		○	○																					
	SNMG150608-DR	15.875	15.875	6.35	6.35	0.8			○																					
	SNMG150612-DR	15.875	15.875	6.35	6.35	1.2			★																○	○				
	SNMG150616-DR	15.875	15.875	6.35	6.35	1.6			★																○	○				
	SNMG150624-DR	15.875	15.875	6.35	6.35	2.4			○																					
	SNMG190612-DR	19.05	19.05	6.35	7.94	1.2			○																					
	SNMG190616-DR	19.05	19.05	6.35	7.94	1.6			★																	○	○			
	SNMG190624-DR	19.05	19.05	6.35	7.94	2.4			○																					

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A146



A147



A148



A149



A158



A159



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A161



A197

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

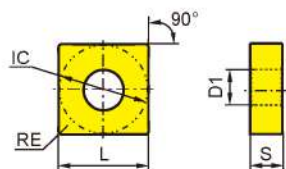
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

SN (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride
S Heat resistant alloy, Ti alloy	Aluminum nitride

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cement	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 DR For roughing	SNMM120408-DR	12.7	12.7	4.76	5.16	0.8		○																							
	SNMM120412-DR	12.7	12.7	4.76	5.16	1.2		○	○																						
	SNMM120416-DR	12.7	12.7	4.76	5.16	1.6		○	○																						
	SNMM150608-DR	15.875	15.875	6.35	6.35	0.8			○																						
	SNMM150612-DR	15.875	15.875	6.35	6.35	1.2			○																						
	SNMM150616-DR	15.875	15.875	6.35	6.35	1.6			○																						
	SNMM190608-DR	19.05	19.05	6.35	7.94	0.8			○																						
	SNMM190612-DR	19.05	19.05	6.35	7.94	1.2			○																						
	SNMM190616-DR	19.05	19.05	6.35	7.94	1.6		○	★																						
	SNMM190624-DR	19.05	19.05	6.35	7.94	2.4		★	○																						
	SNMM250724-DR	25.4	25.4	7.94	9.12	2.4			○																						
SNMM250924-DR	25.4	25.4	9.525	9.12	2.4			★																							
 ER For roughing	SNMG120408-ER	12.7	12.7	4.76	5.16	0.8																★									
	SNMG120412-ER	12.7	12.7	4.76	5.16	1.2																★									
	SNMG150608-ER	15.875	15.875	6.35	6.35	0.8																★									
	SNMG150612-ER	15.875	15.875	6.35	6.35	1.2																★									
	SNMG190612-ER	19.05	19.05	6.35	7.94	1.2																★									
	SNMG190616-ER	19.05	19.05	6.35	7.94	1.6																★									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A147



A148



A149



A158



A159



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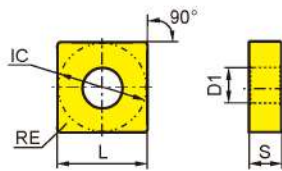


A161



A197

SN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For roughing	SNMM250724-ER	25.4	25.4	7.94	9.12	2.4			●													★								
	SNMM250732-ER	25.4	25.4	7.94	9.12	3.2			●													★								
	SNMM250924-ER	25.4	25.4	9.525	9.12	2.4			●													★								
	SNMM250932-ER	25.4	25.4	9.525	9.12	3.2			●													★								
 For roughing	SNMG120408-SNR	12.7	12.7	4.76	5.16	0.8						○	●			○						★								
 For heavy machining	SNMM120408-HDR	12.7	12.7	4.76	5.16	0.8						○																		
	SNMM120412-HDR	12.7	12.7	4.76	5.16	1.2						○																		
	SNMM120416-HDR	12.7	12.7	4.76	5.16	1.6						○																		
	SNMM150608-HDR	15.875	15.875	6.35	6.35	0.8						○																		
	SNMM150612-HDR	15.875	15.875	6.35	6.35	1.2						○																		
	SNMM150616-HDR	15.875	15.875	6.35	6.35	1.6						○																		
	SNMM150624-HDR	15.875	15.875	6.35	6.35	2.4						○																		
	SNMM190608-HDR	19.05	19.05	6.35	7.94	0.8						○																		
	SNMM190612-HDR	19.05	19.05	6.35	7.94	1.2						○																		
	SNMM190616-HDR	19.05	19.05	6.35	7.94	1.6						○	○																	
	SNMM190624-HDR	19.05	19.05	6.35	7.94	2.4						○																		
	SNMM250724-HDR	25.4	25.4	7.94	9.12	2.4				★	○																			
	SNMM250924-HDR	25.4	25.4	9.525	9.12	2.4						○																		

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

 KAPR:75° Page A138	 KAPR:75° A146	 KAPR:45° A147	 KAPR:75° A148	 KAPR:45° A149	 KAPR:75° A158	 KAPR:75° A159
 KAPR:75° Page A160	 KAPR:45° A161	 KAPR:75° A197				

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

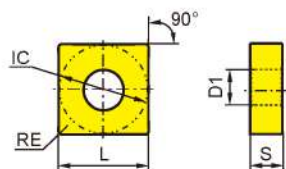
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

SN (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride
S Heat resistant alloy, Ti alloy	Aluminum nitride

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A146



A147



A148



A149



A158



A159



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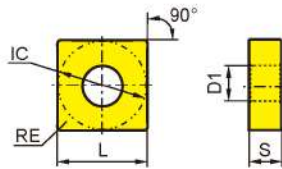
A161



A197

Cemented carbide and cermet inserts

SN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cement	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
Without chipbreaker 	SNMA090304	9.525	9.525	3.18	3.81	0.4																									
	SNMA090308	9.525	9.525	3.18	3.81	0.8																									
	SNMA120404	12.7	12.7	4.76	5.16	0.4																									
	SNMA120408	12.7	12.7	4.76	5.16	0.8																									
	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																									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order



Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

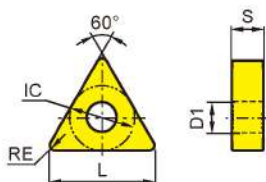
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

TN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material

P Steel	                               
----------------	---

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For finishing	XF	TNMG160404-XF	16.5	9.525	4.76	3.81	0.4	★ ★																							
		TNMG160408-XF	16.5	9.525	4.76	3.81	0.8	★ ★																							
 For finishing	DF	TNMG160404-DF	16.5	9.525	4.76	3.81	0.4		★ ★											○								●			
		TNMG160408-DF	16.5	9.525	4.76	3.81	0.8		★ ★																			●			
		TNMG160412-DF	16.5	9.525	4.76	3.81	1.2			○ ○																					
		TNMG220408-DF	22	12.7	4.76	5.16	0.8		★ ○																						
		TNMG220412-DF	22	12.7	4.76	5.16	1.2			○																					
 For finishing	SF	TNMG110304-SF	11	6.35	3.18	2.26	0.4								○													○	★		
		TNMG160404-SF	16.5	9.525	4.76	3.81	0.4									○			★									○	★		
		TNMG160408-SF	16.5	9.525	4.76	3.81	0.8									○			★									○	★		
		TNMG220408-SF	22	12.7	4.76	5.16	0.8									○												○	★		
		TNMG220412-SF	22	12.7	4.76	5.16	1.2									○													○	★	

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A150



A151



A152



A162



A163



A164

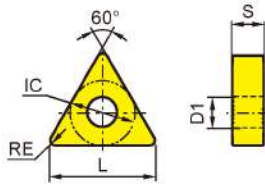


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TN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YB9315	YB9320	YBH053	YBM153	YBM215	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For finishing	TNMG110304-EF	11	6.35	3.18	2.26	0.4								○	★					★	○										
	TNMG110308-EF	11	6.35	3.18	2.26	0.8								○	★					★	○										
	TNMG160404-EF	16.5	9.525	4.76	3.81	0.4								●	★	★				★	★										
	TNMG160408-EF	16.5	9.525	4.76	3.81	0.8								●	★	★				★	★										
	TNMG160412-EF	16.5	9.525	4.76	3.81	1.2								○	★					★	★										
	TNMG220404-EF	22	12.7	4.76	5.16	0.4								○	★					★	○										
	TNMG220408-EF	22	12.7	4.76	5.16	0.8								○	★					★	○										
	TNMG220412-EF	22	12.7	4.76	5.16	1.2								○	★					★	○										
 For finishing	TNMG160404-ES	16.5	9.525	4.76	3.81	0.4										★															
	TNMG160408-ES	16.5	9.525	4.76	3.81	0.8										★															
	TNMG160412-ES	16.5	9.525	4.76	3.81	1.2										★															
 For finishing	TNMG160404-ADF	16.5	9.525	4.76	3.81	0.4										★	★														
	TNMG160408-ADF	16.5	9.525	4.76	3.81	0.8										★	★														
	TNMG160412-ADF	16.5	9.525	4.76	3.81	1.2										★	★														

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

DTGNR/L KAPR:91°	PTFNR/L KAPR:91°	PTTNR/L KAPR:60°	PTGNR/L KAPR:90°	MTGNR/L KAPR:90°	MTJNR/L KAPR:93°	MTJNR/L-Z KAPR:93°
Page A139	A150	A151	A152	A162	A163	A164

MTFNR/L KAPR:91°	PTFNR/L KAPR:90°
Page A165	A198

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

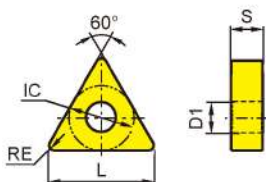
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

TN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

[illegible][illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A150



A151



A152



A162



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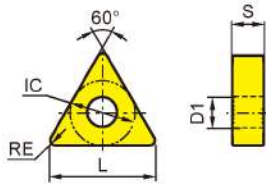


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A198

TN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YB9315	YBG302	YBH053	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 DM For semi-finishing	TNMG110308-DM	11	6.35	3.18	2.26	0.8			○	○																					
	TNMG160404-DM	16.5	9.525	4.76	3.81	0.4			★	★				○														●			
	TNMG160408-DM	16.5	9.525	4.76	3.81	0.8			★	★				●								●						○			
	TNMG160412-DM	16.5	9.525	4.76	3.81	1.2			○	★																					
	TNMG220404-DM	22	12.7	4.76	5.16	0.4			★	★												○									
	TNMG220408-DM	22	12.7	4.76	5.16	0.8			★	★												○						○			
	TNMG220412-DM	22	12.7	4.76	5.16	1.2			○	○																					
	TNMG220416-DM	22	12.7	4.76	5.16	1.6			○	○																					
 EM For semi-finishing	TNMG160404-EM	16.5	9.525	4.76	3.81	0.4								●	★	★				★		★									
	TNMG160408-EM	16.5	9.525	4.76	3.81	0.8								●	★	★				★		★									
	TNMG160412-EM	16.5	9.525	4.76	3.81	1.2								○	★					★		★									
	TNMG220408-EM	22	12.7	4.76	5.16	0.8								●	★					○		★									
	TNMG220412-EM	22	12.7	4.76	5.16	1.2								○	★					○		★									
	TNMG220416-EM	22	12.7	4.76	5.16	1.6								○	★					○		★									
 EG For semi-finishing	TNMG160404-EG	16.5	9.525	4.76	3.81	0.4											★														
	TNMG160408-EG	16.5	9.525	4.76	3.81	0.8											★														
	TNMG160412-EG	16.5	9.525	4.76	3.81	1.2											★														

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

 DTG NR/L KAPR:91° Page A139	 PTF NR/L KAPR:91° A150	 PTT NR/L KAPR:60° A151	 PTG NR/L KAPR:90° A152	 MTG NR/L KAPR:90° A162	 MTJ NR/L KAPR:93° A163	 MTJ NR/L-Z KAPR:93° A164
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 MTF NR/L KAPR:91° Page A165	 PTF NR/L KAPR:90° A198
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Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

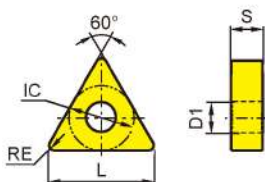
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

TN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

P Steel
M Stainless steel
K Cast iron
N Non-ferrous metal
S Heat resistant alloy, Ti alloy

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cemented carbide				
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YB9315	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C
 For semi-finishing	TNMG160408-EH	16.5	9.525	4.76	3.81	0.8	★																					
 Light-load roughing	TNMM160408-LR	16.5	9.525	4.76	3.81	0.8	★																					
	TNMM160412-LR	16.5	9.525	4.76	3.81	1.2	★																					
	TNMM220408-LR	22	12.7	4.76	5.16	0.8	★																					
	TNMM220412-LR	22	12.7	4.76	5.16	1.2	★																					
	TNMM220416-LR	22	12.7	4.76	5.16	1.6	★																					
 Light-load roughing	TNMG160408-DR	16.5	9.525	4.76	3.81	0.8	○	○															○	○				
	TNMG160412-DR	16.5	9.525	4.76	3.81	1.2	○	○															●	●				
	TNMG220408-DR	22	12.7	4.76	5.16	0.8	○														○							
	TNMG220412-DR	22	12.7	4.76	5.16	1.2	○														○							
	TNMG220416-DR	22	12.7	4.76	5.16	1.6	○														○							
	TNMG270608-DR	27.5	15.875	6.35	6.35	0.8	○																					
	TNMG270612-DR	27.5	15.875	6.35	6.35	1.2	○																					
	TNMG270616-DR	27.5	15.875	6.35	6.35	1.6	○																					

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



Page A139



A150



A151



A152



A162



A163



A164

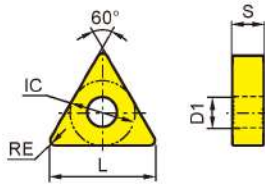


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A198

TN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
DR  For roughing	TNMM160408-DR	16.5	9.525	4.76	3.81	0.8			○																						
	TNMM160412-DR	16.5	9.525	4.76	3.81	1.2			○																						
	TNMM220408-DR	22	12.7	4.76	5.16	0.8			○																						
	TNMM220412-DR	22	12.7	4.76	5.16	1.2			○																						
	TNMM220416-DR	22	12.7	4.76	5.16	1.6			○																						
	TNMM270612-DR	27.5	15.875	6.35	5.16	1.2			○																						
	TNMM270616-DR	27.5	15.875	6.35	5.16	1.6			○																						
ER  For roughing	TNMG160408-ER	16.5	9.525	4.76	3.81	0.8															★										
	TNMG160412-ER	16.5	9.525	4.76	3.81	1.2																★									
	TNMG220408-ER	22	12.7	4.76	5.16	0.8																★									
	TNMG220412-ER	22	12.7	4.76	5.16	1.2																★									
SNR  For roughing	TNMG160408-SNR	16.5	9.525	4.76	3.81	0.8				○	●				○						★										

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

DTGNR/L KAPR:91°	PTFNR/L KAPR:91°	PTTNR/L KAPR:60°	PTGNR/L KAPR:90°	MTGNR/L KAPR:90°	MTJNR/L KAPR:93°	MTJNR/L-Z KAPR:93°
Page A139	A150	A151	A152	A162	A163	A164

MTFNR/L KAPR:91°	PTFNR/L KAPR:90°
Page A165	A198

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

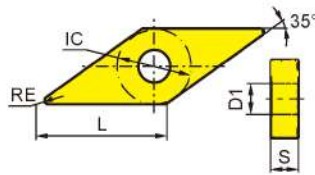
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

VN (Negative inserts)



Workpiece material

P Steel

M Stainless steel

K Cast iron

N Non-ferrous metal

S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG315	YBG320	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
XF  For finishing	VNMG160404-XF	16.6	9.525	4.76	3.81	0.4	★	★																						
	VNMG160408-XF	16.6	9.525	4.76	3.81	0.8	★	★																						
	VNMG160412-XF	16.6	9.525	4.76	3.81	1.2	★	★																						
DF  For finishing	VNMG160404-DF	16.6	9.525	4.76	3.81	0.4		★	★											●										
	VNMG160408-DF	16.6	9.525	4.76	3.81	0.8		★	○																					
EF  For finishing	VNMG160404-EF	16.6	9.525	4.76	3.81	0.4							○	★					★	★										
	VNMG160408-EF	16.6	9.525	4.76	3.81	0.8							○	★					★	★										
	VNMG160412-EF	16.6	9.525	4.76	3.81	1.2							○	★					★	○										
ADF  For finishing	VNMG160404-ADF	16.6	9.525	4.76	3.81	0.4									★	★														
	VNMG160408-ADF	16.6	9.525	4.76	3.81	0.8										★	★													
NF  For finishing	VNEG160404-NF	16.6	9.525	4.76	3.81	0.4					○	★									★								○	
	VNEG160408-NF	16.6	9.525	4.76	3.81	0.8					○	★																	○	

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

DVVNN
KAPR:72°30'



Page A140

DVJNR/L
KAPR:93°



A140

MVVNN
KAPR:72°30'



A166

MVJNR/L
KAPR:93°



A167

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

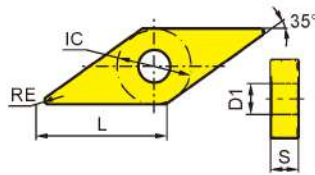
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

VN (Negative inserts)



Workpiece material

- P** Steel
- M** Stainless steel
- K** Cast iron
- N** Non-ferrous metal
- S** Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YBG315	YBG302	YBH053	YBM153	YBM215	YBM253	YBS103	YBD052	YBD102	YBD152C	YNG151	YNG151C	YD101	YD201	
 For semi-finishing	VNMG160404-EM	16.6	9.525	4.76	3.81	0.4							●	★	★						★	★									
	VNMG160408-EM	16.6	9.525	4.76	3.81	0.8							●	★	★						★	★									
 For semi-finishing	VNMG160404-EG	16.6	9.525	4.76	3.81	0.4										★															
	VNMG160408-EG	16.6	9.525	4.76	3.81	0.8										★															
 For semi-finishing	VNMG160412-NM	16.6	9.525	4.76	3.81	1.2						○	★										○							○	
 For roughing	VNMG160408-SNR	16.6	9.525	4.76	3.81	0.8						○	●				○					★									
	VNMG160412-SNR	16.6	9.525	4.76	3.81	1.2						○	●				○					★									
	VNMG160404-TC	16.6	9.525	4.76	3.81	0.4																				★					
	VNMG160408-TC	16.6	9.525	4.76	3.81	0.8																				★					
	VNMG160412-TC	16.6	9.525	4.76	3.81	1.2																				★					

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

DVVNN
KAPR:72°30'



Page A140

DVJNR/L
KAPR:93°



A140

MVVNN
KAPR:72°30'



A166

MVJNR/L
KAPR:93°



A167

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

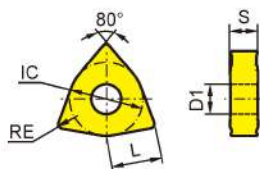
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

WN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

A 10x10 grid world environment. The grid contains several obstacles (black squares) and goals (blue squares with 'G'). The obstacles are located at (1,1), (1,2), (1,3), (1,4), (1,5), (1,6), (1,7), (1,8), (1,9), (1,10), (2,1), (2,2), (2,3), (2,4), (2,5), (2,6), (2,7), (2,8), (2,9), (2,10), (3,1), (3,2), (3,3), (3,4), (3,5), (3,6), (3,7), (3,8), (3,9), (3,10), (4,1), (4,2), (4,3), (4,4), (4,5), (4,6), (4,7), (4,8), (4,9), (4,10), (5,1), (5,2), (5,3), (5,4), (5,5), (5,6), (5,7), (5,8), (5,9), (5,10), (6,1), (6,2), (6,3), (6,4), (6,5), (6,6), (6,7), (6,8), (6,9), (6,10), (7,1), (7,2), (7,3), (7,4), (7,5), (7,6), (7,7), (7,8), (7,9), (7,10), (8,1), (8,2), (8,3), (8,4), (8,5), (8,6), (8,7), (8,8), (8,9), (8,10), (9,1), (9,2), (9,3), (9,4), (9,5), (9,6), (9,7), (9,8), (9,9), (9,10), and (10,1). The goals are located at (1,1), (1,2), (1,3), (1,4), (1,5), (1,6), (1,7), (1,8), (1,9), (1,10), (2,1), (2,2), (2,3), (2,4), (2,5), (2,6), (2,7), (2,8), (2,9), (2,10), (3,1), (3,2), (3,3), (3,4), (3,5), (3,6), (3,7), (3,8), (3,9), (3,10), (4,1), (4,2), (4,3), (4,4), (4,5), (4,6), (4,7), (4,8), (4,9), (4,10), (5,1), (5,2), (5,3), (5,4), (5,5), (5,6), (5,7), (5,8), (5,9), (5,10), (6,1), (6,2), (6,3), (6,4), (6,5), (6,6), (6,7), (6,8), (6,9), (6,10), (7,1), (7,2), (7,3), (7,4), (7,5), (7,6), (7,7), (7,8), (7,9), (7,10), (8,1), (8,2), (8,3), (8,4), (8,5), (8,6), (8,7), (8,8), (8,9), (8,10), (9,1), (9,2), (9,3), (9,4), (9,5), (9,6), (9,7), (9,8), (9,9), (9,10), and (10,1).

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cemet	Coated cemet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For finishing	WNMG060404-XF	6.5	9.525	4.76	3.81	0.4	★	★																						
	WNMG060408-XF	6.5	9.525	4.76	3.81	0.8	★	★																						
	WNMG080404-XF	8.7	12.7	4.76	5.16	0.4	★	★																						
	WNMG080408-XF	8.7	12.7	4.76	5.16	0.8	★	★																						
	WNMG080412-XF	8.7	12.7	4.76	5.16	1.2	★	★																						
 For finishing	WNMG06T304-DF	6.5	9.525	3.97	3.81	0.4		★																						
	WNMG06T308-DF	6.5	9.525	3.97	3.81	0.8		★	★																					
	WNMG06T312-DF	6.5	9.525	3.97	3.81	1.2		★	★																					
	WNMG060404-DF	6.5	9.525	4.76	3.81	0.4		★	★											○										
	WNMG060408-DF	6.5	9.525	4.76	3.81	0.8		★	★												●									
	WNMG060412-DF	6.5	9.525	4.76	3.81	1.2		★	○												○									
	WNMG080404-DF	8.7	12.7	4.76	5.16	0.4		★	○												○									
	WNMG080408-DF	8.7	12.7	4.76	5.16	0.8		★	★													●								
WNMG080412-DF	8.7	12.7	4.76	5.16	1.2			○	○																					
 For finishing	WNMG06T304-SF	6.5	9.525	3.97	3.81	0.4						○															○	★		
	WNMG06T308-SF	6.5	9.525	3.97	3.81	0.8							○														○			
	WNMG06T312-SF	6.5	9.525	3.97	3.81	1.2								○													○			
	WNMG060404-SF	6.5	9.525	4.76	3.81	0.4								○													○	★		
	WNMG060408-SF	6.5	9.525	4.76	3.81	0.8								○													○	★		
	WNMG080404-SF	8.7	12.7	4.76	5.16	0.4								○				★									○	★		
	WNMG080408-SF	8.7	12.7	4.76	5.16	0.8								○				★									○	★		
	WNMG080412-SF	8.7	12.7	4.76	5.16	1.2								○				★									○			

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

Page A141



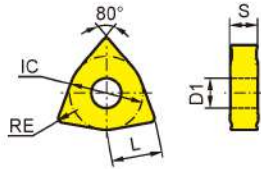
A153



A168



A199

WN (Negative inserts)

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

 Good working condition
  Normal working condition
  Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YBG315	YBG320	YBH053	YBM153	YBM215	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For finishing	WNMG06T304-EF	6.5	9.525	3.97	3.81	0.4								○	★					★	○										
	WNMG06T308-EF	6.5	9.525	3.97	3.81	0.8								○	★					★	○										
	WNMG06T312-EF	6.5	9.525	3.97	3.81	1.2								○	★					★	○										
	WNMG060404-EF	6.5	9.525	4.76	3.81	0.4								●	★					★	○										
	WNMG060408-EF	6.5	9.525	4.76	3.81	0.8								●	★					★	○										
	WNMG080404-EF	8.7	12.7	4.76	5.16	0.4						○		●	★	★				★	★										
	WNMG080408-EF	8.7	12.7	4.76	5.16	0.8						○		●	★	★				★	★										
 For finishing	WNMG080404-ES	8.7	12.7	4.76	5.16	0.4											★														
	WNMG080408-ES	8.7	12.7	4.76	5.16	0.8											★														
 For finishing	WNMG060404-ADF	6.5	9.525	4.76	3.81	0.4											★	★													
	WNMG060408-ADF	6.5	9.525	4.76	3.81	0.8											★	★													
	WNMG080404-ADF	8.7	12.7	4.76	5.16	0.4											★	★													
	WNMG080408-ADF	8.7	12.7	4.76	5.16	0.8											★	★													
	WNMG080412-ADF	8.7	12.7	4.76	5.16	1.2											★	★													
 For finishing	WNEG080404-NF	8.7	12.7	4.76	5.16	0.4						○	★																	○	
	WNEG080408-NF	8.7	12.7	4.76	5.16	0.8						○	★																	○	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool



Page A141

A153

A168

A199

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

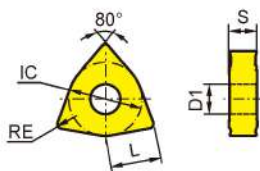
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

WN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride
S Heat resistant alloy, Ti alloy	Aluminum nitride

A 10x10 grid world environment. The grid contains several colored blocks and a goal. The blocks are: a red block at (1,1), a blue block at (1,2), a green block at (1,3), a yellow block at (1,4), a purple block at (1,5), a red block at (1,6), a blue block at (1,7), a green block at (1,8), a yellow block at (1,9), a purple block at (1,10), a red block at (2,1), a blue block at (2,2), a green block at (2,3), a yellow block at (2,4), a purple block at (2,5), a red block at (2,6), a blue block at (2,7), a green block at (2,8), a yellow block at (2,9), a purple block at (2,10), a red block at (3,1), a blue block at (3,2), a green block at (3,3), a yellow block at (3,4), a purple block at (3,5), a red block at (3,6), a blue block at (3,7), a green block at (3,8), a yellow block at (3,9), a purple block at (3,10), a red block at (4,1), a blue block at (4,2), a green block at (4,3), a yellow block at (4,4), a purple block at (4,5), a red block at (4,6), a blue block at (4,7), a green block at (4,8), a yellow block at (4,9), a purple block at (4,10), a red block at (5,1), a blue block at (5,2), a green block at (5,3), a yellow block at (5,4), a purple block at (5,5), a red block at (5,6), a blue block at (5,7), a green block at (5,8), a yellow block at (5,9), a purple block at (5,10), a red block at (6,1), a blue block at (6,2), a green block at (6,3), a yellow block at (6,4), a purple block at (6,5), a red block at (6,6), a blue block at (6,7), a green block at (6,8), a yellow block at (6,9), a purple block at (6,10), a red block at (7,1), a blue block at (7,2), a green block at (7,3), a yellow block at (7,4), a purple block at (7,5), a red block at (7,6), a blue block at (7,7), a green block at (7,8), a yellow block at (7,9), a purple block at (7,10), a red block at (8,1), a blue block at (8,2), a green block at (8,3), a yellow block at (8,4), a purple block at (8,5), a red block at (8,6), a blue block at (8,7), a green block at (8,8), a yellow block at (8,9), a purple block at (8,10), a red block at (9,1), a blue block at (9,2), a green block at (9,3), a yellow block at (9,4), a purple block at (9,5), a red block at (9,6), a blue block at (9,7), a green block at (9,8), a yellow block at (9,9), a purple block at (9,10), a red block at (10,1), a blue block at (10,2), a green block at (10,3), a yellow block at (10,4), a purple block at (10,5), a red block at (10,6), a blue block at (10,7), a green block at (10,8), a yellow block at (10,9), a purple block at (10,10).

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

Page A141



A153

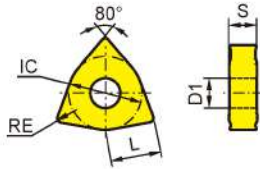


A168



A199

WN (Negative inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YB9315	YBG302	YBH053	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 DM For semi-finishing	WNMG06T304-DM	6.5	9.525	3.97	3.81	0.4			○																					
	WNMG06T308-DM	6.5	9.525	3.97	3.81	0.8			○																					
	WNMG06T312-DM	6.5	9.525	3.97	3.81	1.2			○																					
	WNMG060408-DM	6.5	9.525	4.76	3.81	0.8			★ ★												●									
	WNMG060412-DM	6.5	9.525	4.76	3.81	1.2			○																					
	WNMG080404-DM	8.7	12.7	4.76	5.16	0.4			★ ★				○									○								
	WNMG080408-DM	8.7	12.7	4.76	5.16	0.8			★ ★													○								
	WNMG080412-DM	8.7	12.7	4.76	5.16	1.2			★ ★													○								
	WNMG080416-DM	8.7	12.7	4.76	5.16	1.6			○																					
 EM For semi-finishing	WNMG06T304-EM	6.5	9.525	3.97	3.81	0.4							○ ★							○		★								
	WNMG06T308-EM	6.5	9.525	3.97	3.81	0.8							○ ★								○		★							
	WNMG06T312-EM	6.5	9.525	3.97	3.81	1.2							○ ★								○		★							
	WNMG060404-EM	6.5	9.525	4.76	3.81	0.4							○ ★								○		★							
	WNMG060408-EM	6.5	9.525	4.76	3.81	0.8							● ★								○		★							
	WNMG080404-EM	8.7	12.7	4.76	5.16	0.4							● ★ ★								★		★							
	WNMG080408-EM	8.7	12.7	4.76	5.16	0.8							● ★ ★								★		★							
	WNMG080412-EM	8.7	12.7	4.76	5.16	1.2							● ★ ★								★		★							
 EG For semi-finishing	WNMG080404-EG	8.7	12.7	4.76	5.16	0.4											★													
	WNMG080408-EG	8.7	12.7	4.76	5.16	0.8											★													
	WNMG080412-EG	8.7	12.7	4.76	5.16	1.2											★													

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



Page A141

A153

A168

A199

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

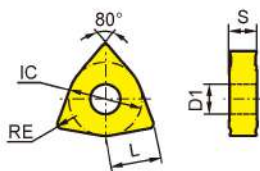
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

WN ☐ ☐ (Negative inserts)



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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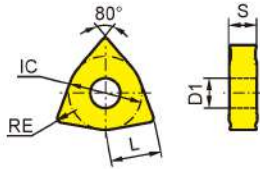
A153



A168



A199

WN (Negative inserts)

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermert	Coated cermet	Cemented carbide				
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253				YBS103	YBD052	YBD102	YBD152C
 TC	WNMG080404-TC	8.7	12.7	4.76	5.16	0.4																				★			
	WNMG080408-TC	8.7	12.7	4.76	5.16	0.8																				★			
	WNMG080412-TC	8.7	12.7	4.76	5.16	1.2																				★			
 Without chipbreaker	WNMA06T308	6.5	9.525	3.97	3.81	0.8																		○					
	WNMA060404	6.5	9.525	4.76	3.81	0.4																				○			
	WNMA060408	6.5	9.525	4.76	3.81	0.8																		★	○	○			
	WNMA060412	6.5	9.525	4.76	3.81	1.2																				○			
	WNMA080404	8.7	12.7	4.76	5.16	0.4																				○			
	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																				★			

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A153

A168

A199

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

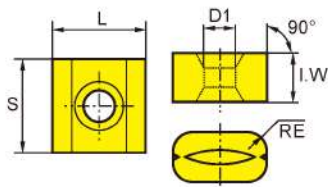
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

LN ☐ ☐ (Negative inserts)



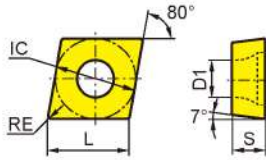
Workpiece material	P	Steel
	M	Stainless steel
	K	Cast iron
	N	Non-ferrous metal
	S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition ☹ Bad working condition

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

CC (Positive inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
SF  For extra finishing	CCGT060202-SF	6.4	6.35	2.38	2.8	0.2						○																	○	○	
	CCGT060204-SF	6.4	6.35	2.38	2.8	0.4						○						★											○	○	
	CCGT09T304-SF	9.7	9.525	3.97	4.4	0.4						○						★											○	★	
XF  For finishing	CCMT060202-XF	6.4	6.35	2.38	2.8	0.2	★	★																							
	CCMT060204-XF	6.4	6.35	2.38	2.8	0.4	★	★																							
	CCMT060208-XF	6.4	6.35	2.38	2.8	0.8	★	★																							
	CCMT09T302-XF	9.7	9.525	3.97	4.4	0.2	★	★																							
	CCMT09T304-XF	9.7	9.525	3.97	4.4	0.4	★	★																							
	CCMT09T308-XF	9.7	9.525	3.97	4.4	0.8	★	★																							
HF  For finishing	CCMT060202-HF	6.4	6.35	2.38	2.8	0.2		★	★			●																○		○	
	CCMT060204-HF	6.4	6.35	2.38	2.8	0.4		★	○			●														●	●			●	
	CCMT060208-HF	6.4	6.35	2.38	2.8	0.8		★				●								○							●	●			
	CCMT09T302-HF	9.7	9.525	3.97	4.4	0.2			○			●																●		○	
	CCMT09T304-HF	9.7	9.525	3.97	4.4	0.4		★	★			●														●	●	●	○		○
	CCMT09T308-HF	9.7	9.525	3.97	4.4	0.8		★	○			●								○				○	○	○	●		○	○	
	CCMT120404-HF	12.9	12.7	4.76	5.56	0.4			○	○																	●	○			
	CCMT120408-HF	12.9	12.7	4.76	5.56	0.8				○																					

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SCACR/L
KAPR:90°

Page A196

SCLCR/L
KAPR:95°

A170

SCLCR/L
KAPR:95°

A200

SCFCR/L
KAPR:90°

A214

SCLCR/L
KAPR:95°

A215

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

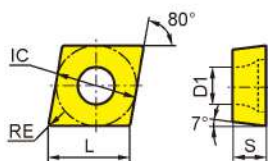
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

CC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride
S Heat resistant alloy, Ti alloy	Aluminum nitride

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

Page A196



A170



A200



A214



A215

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

SCACR/L
 KAPR:90°

SCLCR/L
 KAPR:95°

SCLCR/L
 KAPR:95°

SCFCR/L
 KAPR:90°

SCLCR/L
 KAPR:95°

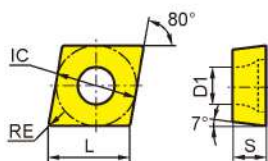
A215

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

CC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride
S Heat resistant alloy, Ti alloy	Aluminum nitride

A 10x10 grid with various emojis placed in different cells, representing a sparse matrix. The emojis include blue, yellow, red, and green faces with different expressions (happy, sad, neutral, etc.).

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152C	YNG151	YNG151C	YD101	YD201	
HR  For roughing	CCMT060204-HR	6.4	6.35	2.38	2.8	0.4		○	○				○																		
	CCMT060208-HR	6.4	6.35	2.38	2.8	0.8			○												●					●					
	CCMT09T304-HR	9.7	9.525	3.97	4.4	0.4								○																	
	CCMT09T308-HR	9.7	9.525	3.97	4.4	0.8			★ ★												●			● ● ●						●	
	CCMT120408-HR	12.9	12.7	4.76	5.56	0.8			★					○							●			● ● ●					● ●		
	CCMT120412-HR	12.9	12.7	4.76	5.56	1.2			○													○			●	○					
TC 	CCMT060204-TC	6.4	6.35	2.38	2.8	0.4																				★					
	CCMT09T304-TC	9.7	9.525	3.97	4.4	0.4																				★					
	CCMT09T308-TC	9.7	9.525	3.97	4.4	0.8																				★					
	CCMT120404-TC	12.9	12.7	4.76	5.56	0.4																				★					
	CCMT120408-TC	12.9	12.7	4.76	5.56	0.8																				★					

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

Page A196



A170



A200

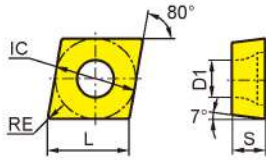


A214



A215

CC (Positive inserts)



Workpiece material	P Steel
	M Stainless steel
	K Cast iron
	N Non-ferrous metal
	S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 LC For AI machining	CCGX060202-LC	6.4	6.35	2.38	2.8	0.2																								★	
	CCGX060204-LC	6.4	6.35	2.38	2.8	0.4																								★	
	CCGX09T302-LC	9.7	9.525	3.97	4.4	0.2																								★	
	CCGX09T304-LC	9.7	9.525	3.97	4.4	0.4																								★	
	CCGX09T308-LC	9.7	9.525	3.97	4.4	0.8																								★	
	CCGX120404-LC	12.9	12.7	4.76	5.5	0.4																								★	
	CCGX120408-LC	12.9	12.7	4.76	5.5	0.8																								★	
 LH For AI machining	CCGX060202-LH	6.4	6.35	2.38	2.8	0.2																								★	
	CCGX060204-LH	6.4	6.35	2.38	2.8	0.4																								★	●
	CCGX060208-LH	6.4	6.35	2.38	2.8	0.8																								★	
	CCGX09T302-LH	9.7	9.525	3.97	4.4	0.2																								★	
	CCGX09T304-LH	9.7	9.525	3.97	4.4	0.4																								★	●
	CCGX09T308-LH	9.7	9.525	3.97	4.4	0.8																								★	
	CCGX120402-LH	12.9	12.7	4.76	5.56	0.2																								○	
	CCGX120404-LH	12.9	12.7	4.76	5.56	0.4																								★	
	CCGX120408-LH	12.9	12.7	4.76	5.56	0.8																								★	
	CCGX120412-LH	12.9	12.7	4.76	5.56	1.2																								○	

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SCACR/L
KAPR:90°

Page A196

SCLCR/L
KAPR:95°

A170

SCLCR/L
KAPR:95°

A200

SCFCR/L
KAPR:90°

A214

SCLCR/L
KAPR:95°

A215

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

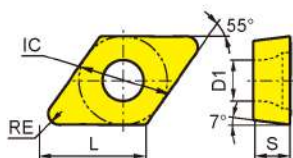
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

DC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 SF For extra finishing	DCGT070202-SF	7.8	6.35	2.38	2.8	0.2					○																○			
	DCGT070204-SF	7.8	6.35	2.38	2.8	0.4					○																	○		
	DCGT070208-SF	7.8	6.35	2.38	2.8	0.8					○																			
	DCGT11T302-SF	11.6	9.525	3.97	4.4	0.2					○																○	○		
	DCGT11T304-SF	11.6	9.525	3.97	4.4	0.4					○							★										★		
	DCGT11T308-SF	11.6	9.525	3.97	4.4	0.8					○							★									○	○		
 XF For finishing	DCMT070202-XF	7.8	6.35	2.38	2.8	0.2	★	★																						
	DCMT070204-XF	7.8	6.35	2.38	2.8	0.4	★	★																						
	DCMT070208-XF	7.8	6.35	2.38	2.8	0.8	★	★																						
	DCMT11T302-XF	11.6	9.525	3.97	4.4	0.2	★	★																						
	DCMT11T304-XF	11.6	9.525	3.97	4.4	0.4	★	★																						
	DCMT11T308-XF	11.6	9.525	3.97	4.4	0.8	★	★																						
 HF For finishing	DCMT070202-HF	7.8	6.35	2.38	2.8	0.2		★	○			○															○			
	DCMT070204-HF	7.8	6.35	2.38	2.8	0.4		★	★			●														○	○			●
	DCMT070208-HF	7.8	6.35	2.38	2.8	0.8			○																					
	DCMT11T302-HF	11.6	9.525	3.97	4.4	0.2		★	○			●															○			○
	DCMT11T304-HF	11.6	9.525	3.97	4.4	0.4		★	★			●													○	○	●			○
	DCMT11T308-HF	11.6	9.525	3.97	4.4	0.8		★	○			○															○			

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

Page A171



A172



A173



A201

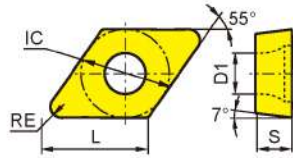


A202



A203

DC (Positive inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YBG315	YBG320	YBH053	YBM153	YBM215	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For finishing	DCMT070202-EF	7.8	6.35	2.38	2.8	0.2					○	●	★							★	○										
	DCMT070204-EF	7.8	6.35	2.38	2.8	0.4					○	●	★							★	○										
	DCMT11T302-EF	11.6	9.525	3.97	4.4	0.2					○	●	★							★	○										
	DCMT11T304-EF	11.6	9.525	3.97	4.4	0.4					○	●	★	★						★	○										
	DCMT11T308-EF	11.6	9.525	3.97	4.4	0.8					○	●	★							○	○										
 For finishing	DCMT070204-AHF	7.8	6.35	2.38	2.8	0.4											★	★													
	DCMT070208-AHF	7.8	6.35	2.38	2.8	0.8												★	★												
	DCMT11T302-AHF	11.6	9.525	3.97	4.4	0.2												★	★												
	DCMT11T304-AHF	11.6	9.525	3.97	4.4	0.4												★	★					★							
	DCMT11T308-AHF	11.6	9.525	3.97	4.4	0.8												★	★					★							
 For semi-finishing	DCMT070204-XM	7.8	6.35	2.38	2.8	0.4	★	★																							
	DCMT070208-XM	7.8	6.35	2.38	2.8	0.8	★	★																							
	DCMT11T304-XM	11.6	9.525	3.97	4.4	0.4	★	★																							
	DCMT11T308-XM	11.6	9.525	3.97	4.4	0.8	★	★																							
	DCMT11T312-XM	11.6	9.525	3.97	4.4	1.2	★	★																							

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SDACR/L
KAPR:90°

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SDJCR/L
KAPR:93°

A172

SDNCR
KAPR:62°30'

A173

SDQCR/L
KAPR:107°30'

A201

SDUCR/L
KAPR:93°

A202

SDZCR/L
KAPR:93°

A203

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

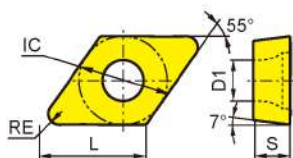
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

DC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

A 10x10 grid world environment. The grid contains several colored blocks and a goal. The blocks are: blue blocks with a 'C' (top-left, top-middle, top-right, middle-left, middle-middle, middle-right, bottom-left, bottom-middle, bottom-right), yellow blocks with an 'E' (middle-left, middle-middle, middle-right, bottom-left, bottom-middle, bottom-right), red blocks with an 'E' (bottom-middle, bottom-right), green blocks with an 'E' (bottom-right), and a blue block with a 'C' (bottom-right). The goal is a blue block with a 'C' (bottom-right).

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A172



A173



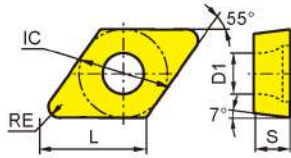
A201



A202



A203

DC (Positive inserts)

P Steel
M Stainless steel
K Cast iron
N Non-ferrous metal
S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
LC  For Al machining	DCGX070201-LC	7.8	6.35	2.38	2.8	0.1																								★
	DCGX070202-LC	7.8	6.35	2.38	2.8	0.2																								★
	DCGX070204-LC	7.8	6.35	2.38	2.8	0.4																								★
	DCGX11T304-LC	11.6	9.525	3.97	4.4	0.4																								★
	DCGX11T308-LC	11.6	9.525	3.97	4.4	0.8																								★
LH  For Al machining	DCGX070202-LH	7.8	6.35	2.38	2.8	0.2																							★	
	DCGX070204-LH	7.8	6.35	2.38	2.8	0.4																							★	○
	DCGX11T302-LH	11.6	9.525	3.97	4.4	0.2																							★	○
	DCGX11T304-LH	11.6	9.525	3.97	4.4	0.4																							★	●
	DCGX11T308-LH	11.6	9.525	3.97	4.4	0.8																							★	

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SDACR/L
KAPR:90°

Page A171

SDJCR/L
KAPR:93°

A172

SDNCR
KAPR:62°30'

A173

SDQCR/L
KAPR:107°30'

A201

SDUCR/L
KAPR:93°

A202

SDZCR/L
KAPR:93°

A203

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

A24-A37

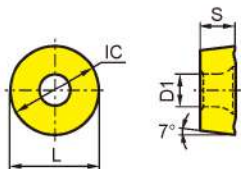
Recommended cutting parameters

A222-A224



Cemented carbide and cermet inserts

RC (Positive inserts)

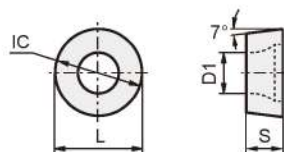


P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)				Coated cemented carbide																Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
	RCGT1204MO	12	12	4.76	4.4			○																					
	RCMT0803MO	8.0	8.0	3.18	3.36			○																					
	RCMT10T3MO	10	10	3.97	4.4			○																					
	RCMT1204MO	12	12	4.76	4.4			★															★	★	○				
	RCMT1606MO	16	16	6.35	5.5																		★						

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)				Coated cemented carbide																Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
LH  For Al machining	RCGX0803MO-LH	8.0	8.0	3.18	3.36																							★	

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SRDCN

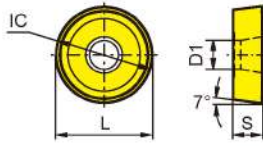


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SRGCR/L



A187

RC (Positive inserts)

P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

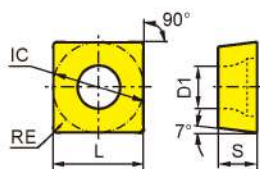
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)				Coated cemented carbide																Cermet	Coated cermet	Cemented carbide					
		L	IC	S	D1	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
	RCMX0803MO	8.0	8.0	3.18	3.36																								
	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				○	○																			

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Cemented carbide and cermet inserts

SC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

A 10x10 grid with various emojis placed in specific cells. The emojis include blue, yellow, red, green, and orange faces with different expressions like smiling, crying, and neutral.

[illegible]

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool



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A180



A181

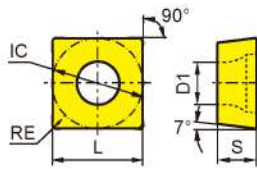


A182



A204

SC (Positive inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YBG212	YBG302	YBH053	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For semi-finishing	XM SCMT09T304-XM	9.525	9.525	3.97	4.4	0.4	★	★																						
	SCMT09T308-XM	9.525	9.525	3.97	4.4	0.8	★	★																						
	SCMT09T312-XM	9.525	9.525	3.97	4.4	1.2	★	★																						
	SCMT120408-XM	12.7	12.7	4.76	5.56	0.8	★	★																						
	SCMT120412-XM	12.7	12.7	4.76	5.56	1.2	★	★																						
 For semi-finishing	HM SCMT09T304-HM	9.525	9.525	3.97	4.4	0.4		○													●				●	●				
	SCMT09T308-HM	9.525	9.525	3.97	4.4	0.8		●	○				○								●				●	○				
	SCMT120404-HM	12.7	12.7	4.76	5.56	0.4		○																		●				
	SCMT120408-HM	12.7	12.7	4.76	5.56	0.8		●	○		●		○								●				●					
	SCMT120412-HM	12.7	12.7	4.76	5.56	1.2		○													○									
 For semi-finishing	EM SCMT09T304-EM	9.525	9.525	3.97	4.4	0.4							●	★						○	★									
	SCMT09T308-EM	9.525	9.525	3.97	4.4	0.8							●	★	★					○	★									
	SCMT120404-EM	12.7	12.7	4.76	5.56	0.4							●	★						○	★									
	SCMT120408-EM	12.7	12.7	4.76	5.56	0.8							●	★	★					○	★									
	SCMT120412-EM	12.7	12.7	4.76	5.56	1.2							●	★						○	★									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A182



A204

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

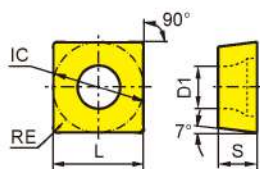
A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

SC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cermetal Coated cermet	Cemented carbide			
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103			YBD052	YBD102	YBD152
LC  For Al machining	SCGX09T304-LC	9.525	9.525	3.97	4.4	0.4																						★
	SCGX09T308-LC	9.525	9.525	3.97	4.4	0.8																						★
	SCGX120408-LC	12.7	12.7	4.76	5.5	0.8																						★
LH  For Al machining	SCGX09T302-LH	9.525	9.525	3.97	4.4	0.2																					○	
	SCGX09T304-LH	9.525	9.525	3.97	4.4	0.4																					○	
	SCGX09T308-LH	9.525	9.525	3.97	4.4	0.8																					★	
	SCGX120404-LH	12.7	12.7	4.76	5.56	0.4																					○	
	SCGX120408-LH	12.7	12.7	4.76	5.56	0.8																					★	
HR  For roughing	SCMT09T304-HR	9.525	9.525	3.97	4.4	0.4		★				●														○		
	SCMT09T308-HR	9.525	9.525	3.97	4.4	0.8		★																	●	●		
	SCMT09T312-HR	9.525	9.525	3.97	4.4	1.2		★																				
	SCMT120404-HR	12.7	12.7	4.76	5.56	0.4			○																			
	SCMT120408-HR	12.7	12.7	4.76	5.56	0.8		★	○				○												○	●	●	
	SCMT120412-HR	12.7	12.7	4.76	5.56	1.2			○																○	○		

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A180



A181



A182



A204

😊 Good working condition 😐 Normal working condition ☹ Bad working condition

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

STACR/L
KAPR:90°

STFCR/L
KAPR:91°

STGCR/L
KAPR:91°

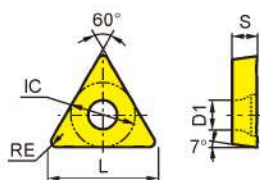
STFCR/L
KAPR:91°

A205

A222-A224

Cemented carbide and cermet inserts

TC ☐ ☐ (Positive inserts)



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Tool material
P Steel	High speed steel
M Stainless steel	Coated high speed steel
K Cast iron	Coated high speed steel
N Non-ferrous metal	Aluminum nitride
S Heat resistant alloy, Ti alloy	Aluminum nitride

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

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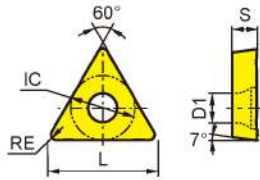


A185



A205

TC (Positive inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG205H	YB9315	YB9320	YBH053	YBM153	YBM215	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For finishing	TCMT110204-AHF	11	6.35	2.35	2.8	0.4											★ ★														
	TCMT110208-AHF	11	6.35	2.38	2.8	0.8											★ ★														
	TCMT16T304-AHF	16.5	9.525	3.97	4.4	0.4											★ ★														
	TCMT16T308-AHF	16.5	9.525	3.97	4.4	0.8											★ ★														
 For semi-finishing	TCMT090204-EM	9.6	5.56	2.38	2.8	0.4							● ★ ★								○ ★										
	TCMT090208-EM	9.6	5.56	2.38	2.8	0.8							● ★								○ ★										
	TCMT110204-EM	11	6.35	2.38	2.8	0.4							● ★ ★								○ ★										
	TCMT110208-EM	11	6.35	2.38	2.8	0.8							● ★								○ ★										
	TCMT110212-EM	11	6.35	2.38	2.8	1.2							● ★								○ ★										
	TCMT16T304-EM	16.5	9.525	3.97	4.4	0.4							● ★ ★								○ ★										
	TCMT16T308-EM	16.5	9.525	3.97	4.4	0.8							● ★ ★								○ ★										
	TCMT16T312-EM	16.5	9.525	3.97	4.4	1.2							● ★								○ ★										
 For semi-finishing	TCMT110204-EG	11	6.35	2.38	2.8	0.4											★														
	TCMT110208-EG	11	6.35	2.38	2.8	0.8											★														
 For semi-finishing	TCMT16T304-XM	16.5	9.525	3.97	4.4	0.4	★ ★																								
	TCMT16T308-XM	16.5	9.525	3.97	4.4	0.8	★ ★																								
	TCMT16T312-XM	16.5	9.525	3.97	4.4	1.2	★ ★																								

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

STAGR/L
KAPR:90°

Page A183

STFCR/L
KAPR:91°

A184

STGCR/L
KAPR:91°

A185

STFCR/L
KAPR:91°

A205

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

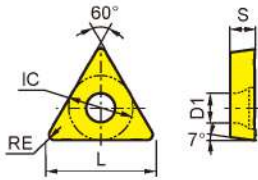
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

TC (Positive inserts)



P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For Al machining	TCGX090202-LC	9.6	5.56	2.38	2.5	0.2																								★
	TCGX090204-LC	9.6	5.56	2.38	2.5	0.4																								★
	TCGX110202-LC	11	6.35	2.38	2.8	0.2																								★
	TCGX110204-LC	11	6.35	2.38	2.8	0.4																								★
	TCGX110208-LC	11	6.35	2.38	2.8	0.8																								★
	TCGX16T304-LC	16.5	9.525	3.97	4.4	0.4																								★
	TCGX16T308-LC	16.5	9.525	3.97	4.4	0.8																								★
 For Al machining	TCGX090202-LH	9.6	5.56	2.38	2.5	0.2																								★
	TCGX090204-LH	9.6	5.56	2.38	2.5	0.4																								★
	TCGX110202-LH	11	6.35	2.38	2.8	0.2																								★
	TCGX110204-LH	11	6.35	2.38	2.8	0.4																								★
	TCGX110208-LH	11	6.35	2.38	2.8	0.8																								★
	TCGX16T302-LH	16.5	9.525	3.97	4.4	0.2																								○
	TCGX16T304-LH	16.5	9.525	3.97	4.4	0.4																								★
	TCGX16T308-LH	16.5	9.525	3.97	4.4	0.8																								★

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A184

A185

A205

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

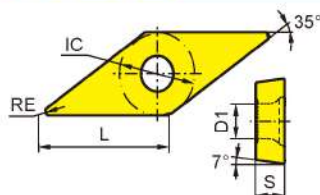
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

VC ☐ ☐ (Positive inserts)

😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	
P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

A 10x10 grid with various colored smiley faces scattered across it. The smiley faces include blue, yellow, red, green, and orange. Some are simple, some have glasses, and some have different expressions. They are distributed across the grid in a non-uniform pattern.

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

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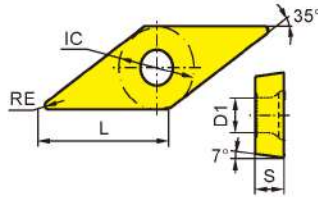
A178



A206



A207

VC (Positive inserts)

Workpiece material

P Steel

M Stainless steel

K Cast iron

N Non-ferrous metal

S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
XM  For semi-finishing	VCMT160404-XM	16.6	9.525	4.76	4.4	0.4	★	★																						
	VCMT160408-XM	16.6	9.525	4.76	4.4	0.8	★	★																						
	VCMT160412-XM	16.6	9.525	4.76	4.4	1.2	★	★																						

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order



Applicable tool

SVVCN

KAPR:72°30'



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SVJCR/L

KAPR:93°



A178

SVQCR/L

KAPR:107°30'



A206

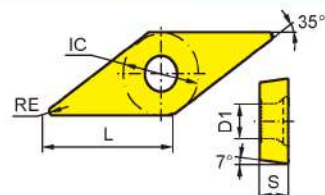
SVUCR/L

KAPR:93°



A207

Cemented carbide and cermet inserts

VC ☐ ☐ (Positive inserts)

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	
P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SVVCN
KAPR:72°30'



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SVJCR/L
KAPR:93^o

A178

SVQCR/L
KAPR:107°30'

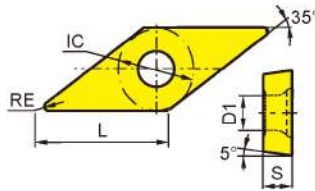


A206

SVUCR/L
KAPR:93^o

A207

VB (Positive inserts)



Workpiece material

P Steel

M Stainless steel

K Cast iron

N Non-ferrous metal

S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																	Cermet	Cermet	Cemented carbide					
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For extra finishing	VBGT110302-SF	11	6.35	3.18	2.8	0.2					○																	○	○		
	VBGT110304-SF	11	6.35	3.18	2.8	0.4					○																	○	○		
 For finishing	VBMT110302-EF	11	6.35	3.18	2.8	0.2					○	●	★					★	○												
	VBMT110304-EF	11	6.35	3.18	2.8	0.4					○	●	★					★	○												
	VBMT110308-EF	11	6.35	3.18	2.8	0.8					○	●	★					○	○												
	VBMT160404-EF	16.5	9.525	4.76	4.4	0.4					○	●	★					★	●												
	VBMT160408-EF	16.5	9.525	4.76	4.4	0.8					○	●	★					○	●												
 For finishing	VBMT110202-XF	11	6.35	2.38	2.8	0.2	★	★																							
	VBMT110204-XF	11	6.35	2.38	2.8	0.4	★	★																							
	VBMT110302-XF	11	6.35	3.18	2.8	0.2	★	★																							
	VBMT110304-XF	11	6.35	3.18	2.8	0.4	★	★																							
	VBMT160404-XF	16.5	9.525	4.76	4.4	0.4	★	★																							
	VBMT160408-XF	16.5	9.525	4.76	4.4	0.8	★	★																							
 For finishing	VBMT110202-HF	11	6.35	2.38	2.8	0.2							●																		
	VBMT110204-HF	11	6.35	2.38	2.8	0.4							○													○					
	VBMT110208-HF	11	6.35	2.38	2.8	0.8							○																		

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A175



A176



A208



A209

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

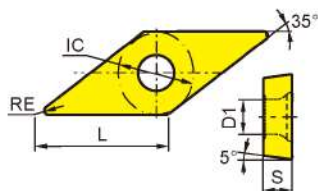
Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

Cemented carbide and cermet inserts

VB ☐ ☐ (Positive inserts)

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	Color
P Steel	Blue
M Stainless steel	Yellow
K Cast iron	Red
N Non-ferrous metal	Green
S Heat resistant alloy, Ti alloy	Orange

[illegible]

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool



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A175



A176

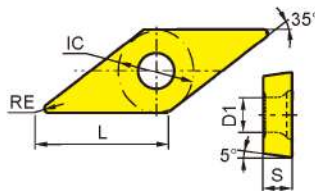


A208



A209

VB (Positive inserts)



Workpiece material	
P Steel	
M Stainless steel	
K Cast iron	
N Non-ferrous metal	
S Heat resistant alloy, Ti alloy	

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
 For semi-finishing	VBMT160404-HM	16.5	9.525	4.76	4.4	0.4		★	★				●								●				●						○
	VBMT160408-HM	16.5	9.525	4.76	4.4	0.8		★	★				●								●				●	●					
	VBMT160412-HM	16.5	9.525	4.76	4.4	1.2								○								○					○				○
 For roughing	VBMT160404-HR	16.5	9.525	4.76	4.4	0.4		★	○																						
	VBMT160408-HR	16.5	9.525	4.76	4.4	0.8			○	○																	○				
	VBMT160412-HR	16.5	9.525	4.76	4.4	1.2			○	○																					
	VBGT160408-HR	16.5	9.525	4.76	4.4	0.8			○	○																					
 For roughing	VBMT160408-SNR	16.5	9.525	4.76	4.4	0.8						○	●		○							★									
	VBMT160412-SNR	16.5	9.525	4.76	4.4	1.2							○	●		○						★									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SVJBR/L
KAPR:93°

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SVABR/L
KAPR:90°

A175

SVVBN
KAPR:72°30'

A176

SVQBR/L
KAPR:107°30'

A208

SVUBR/L
KAPR:93°

A209

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

A24-A37

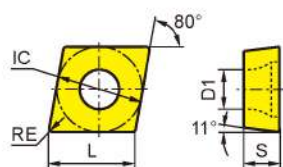
Recommended cutting parameters

A222-A224



Cemented carbide and cermet inserts

CP (Positive inserts)



Workpiece material	P Steel
	M Stainless steel
	K Cast iron
	N Non-ferrous metal
	S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
SF  For extra finishing	CPGT060202-SF	6.4	6.35	2.38	2.8	0.2																									
	CPGT060204-SF	6.4	6.35	2.38	2.8	0.4																									
	CPGT09T304-SF	9.7	9.525	3.97	4.4	0.4																									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

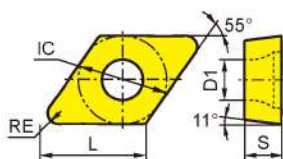
Applicable tool

SCLPR/L
KAPR:95°



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DP (Positive inserts)



Workpiece material	P Steel
	M Stainless steel
	K Cast iron
	N Non-ferrous metal
	S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Cermet	Cemented carbide							
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201	
SF  For extra finishing	DPGT070202-SF	7.8	6.35	2.38	2.8	0.2																									
	DPGT070204-SF	7.8	6.35	2.38	2.8	0.4																									
	DPGT070208-SF	7.8	6.35	2.38	2.8	0.8																									
	DPGT11T304-SF	11.6	9.525	3.97	4.4	0.4																									
	DPGT11T308-SF	11.6	9.525	3.97	4.4	0.8																									

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Applicable tool

SDQPR/L
KAPR:107°30'

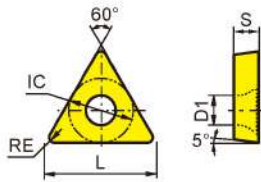


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SDUPR/L
KAPR:93°



A212

TB (Positive inserts)

Workpiece material

P Steel

M Stainless steel

K Cast iron

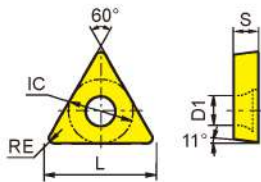
N Non-ferrous metal

S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For extra finishing	TBGH060102L	6.4	3.97	1.59	2.2	0.2						★															★			
	TBGH060104L	6.4	3.97	1.59	2.2	0.4						★																		

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

TP (Positive inserts)

Workpiece material

P Steel

M Stainless steel

K Cast iron

N Non-ferrous metal

S Heat resistant alloy, Ti alloy

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Cermet	Cemented carbide						
		L	IC	S	D1	RE	YBC103	YBC203	YBC152	YBC252	YBC352	YBG102	YBG105	YBG202	YBG205	YBG212	YBG302	YBH053	YBM153	YBM215	YBM251	YBM253	YBS103	YBD052	YBD102	YBD152	YNG151	YNG151C	YD101	YD201
 For extra finishing	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						●															●			

★ Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

Insert code key

A48-A49

Grade selection reference

A21/A38-A45

Chipbreaker selection reference

A24-A37

Recommended cutting parameters

A222-A224

