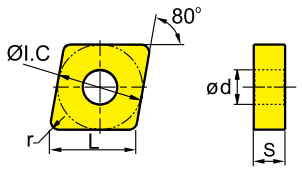
Cemented carbide and cermet inserts

CN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DF	CNMG090304-DF	9.7	9.525	3.18	3.81	0.4	○		○						○																	
	CNMG090308-DF	9.7	9.525	3.18	3.81	0.8	○	○	○																							
	CNMG120404-DF	12.9	12.7	4.76	5.16	0.4	★	●	★						○					○							○						
	CNMG120408-DF	12.9	12.7	4.76	5.16	0.8	★	●	★	○					○					○							●						
For finishing	CNMG120412-DF	12.9	12.7	4.76	5.16	1.2	★	○	○											○													
WGF	CNMG120404-WGF	12.9	12.7	4.76	5.16	0.4	★												★			★											
	CNMG120408-WGF	12.9	12.7	4.76	5.16	0.8	★												★			★											
For finishing Wiper																																	
SF	CNMG090304-SF	9.7	9.525	3.18	3.81	0.4							○														○						
	CNMG090308-SF	9.7	9.525	3.18	3.81	0.8							○														○	★					
	CNMG120404-SF	12.9	12.7	4.76	5.16	0.4							○															★					
	CNMG120408-SF	12.9	12.7	4.76	5.16	0.8							○															★					
For finishing	CNMG120412-SF	12.9	12.7	4.76	5.16	1.2							○														○						
EF	CNMG090304-EF	9.7	9.525	3.18	3.81	0.4									●	★			★														
	CNMG090308-EF	9.7	9.525	3.18	3.81	0.8									○	★			★														
	CNMG120404-EF	12.9	12.7	4.76	5.16	0.4									●	★			★														
	CNMG120408-EF	12.9	12.7	4.76	5.16	0.8							●		●	★			★														
For finishing	CNMG120412-EF	12.9	12.7	4.76	5.16	1.2									○	★			★														

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

Applicable tool

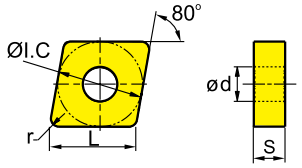

DCLNR/L
Kr:95°
Page A164


PCBNR/L
Kr:75°
A171


PCLNR/L
Kr:95°
A172

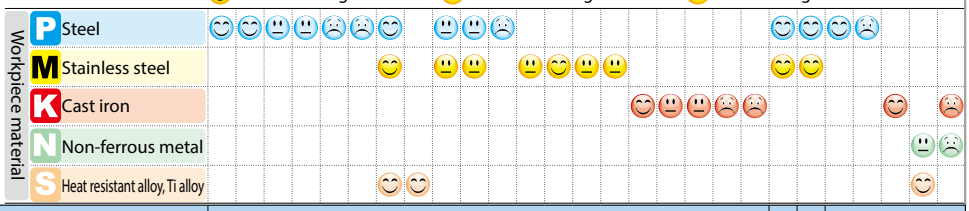

PCLNR/L
Kr:95°
A214

CN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
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							○	★																	○	
WGM  For finishing Wiper	**CNMG120408-WGM**	12.9	12.7	4.76	5.16	0.8				★						★									★							
	CNMG120412-WGM	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

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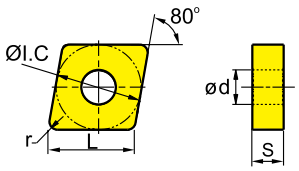
Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

CN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DM	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			●	★	○									○													
EM	CNMG120404-EM	12.9	12.7	4.76	5.16	0.4									●	★					★												
	CNMG120408-EM	12.9	12.7	4.76	5.16	0.8									●	★					★												
	CNMG120412-EM	12.9	12.7	4.76	5.16	1.2									●	★					★												
	CNMG160608-EM	16.1	15.875	6.35	6.35	0.8							○		○	★					★												
	CNMG160612-EM	16.1	15.875	6.35	6.35	1.2									○	★					★												
	CNMG160616-EM	16.1	15.875	6.35	6.35	1.6									○	★					★												

For semi-finishing

For semi-finishing

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

Applicable tool


DCLNR/L Kr:95°
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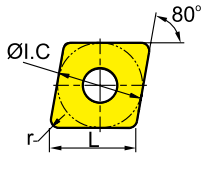
PCBNR/L Kr:75°
A171


PCLNR/L Kr:95°
A172

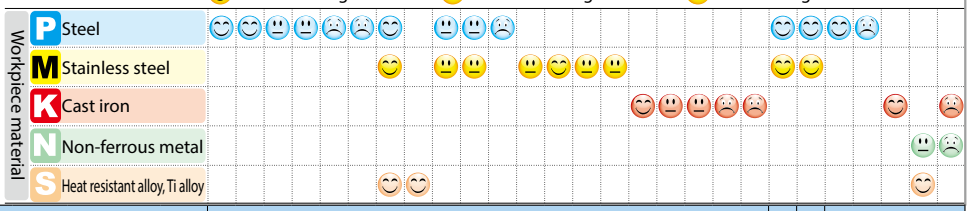

PCLNR/L Kr:95°
A214

CN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
NM  For semi-finishing	**CNMG120404-NM**	12.9	12.7	4.76	5.16	0.4							○	★																		○	
	CNMG120408-NM	12.9	12.7	4.76	5.16	0.8							●	★																		○	
	CNMG120412-NM	12.9	12.7	4.76	5.16	1.2							○	★																		○	
LR  Light-load roughing	**CNMM120408-LR**	12.9	12.7	4.76	5.16	0.8				★																							
	CNMM120412-LR	12.9	12.7	4.76	5.16	1.2				★																							
	CNMM120416-LR	12.9	12.7	4.76	5.16	1.6				★																							
	CNMM160608-LR	16.1	15.875	6.35	6.35	0.8				★																							
	CNMM160612-LR	16.1	15.875	6.35	6.35	1.2				★																							
	CNMM160616-LR	16.1	15.875	6.35	6.35	1.6				★																							
	CNMM160624-LR	16.1	15.875	6.35	6.35	2.4				★																							
	CNMM190612-LR	19.3	19.05	6.35	7.94	1.2				★																							
	CNMM190616-LR	19.3	19.05	6.35	7.94	1.6				★																							
	CNMM190624-LR	19.3	19.05	6.35	7.94	2.4				★																							
	CNMM250924-LR	25.79	25.4	9.525	9.12	2.4				★																							

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

Applicable tool

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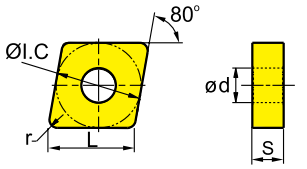
Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

CN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DR For light roughing	CNMG120408-DR	12.9	12.7	4.76	5.16	0.8	★	●	★	●											●		●									
	CNMG120412-DR	12.9	12.7	4.76	5.16	1.2	○	●	★	○											●		●									
	CNMG120416-DR	12.9	12.7	4.76	5.16	1.6	○		○												●		●									
	CNMG160608-DR	16.1	15.875	6.35	6.35	0.8		○	○												○											
	CNMG160612-DR	16.1	15.875	6.35	6.35	1.2		●	★	○											●		○									
	CNMG160616-DR	16.1	15.875	6.35	6.35	1.6		○	★	●																						
	CNMG190608-DR	19.3	15.875	6.35	7.94	0.8		○	○												●		○									
	CNMG190612-DR	19.3	19.05	6.35	7.94	1.2	○	●	★	●											○		○									
	CNMG190616-DR	19.3	19.05	6.35	7.94	1.6	○	●	★	●													○									
	CNMG190624-DR	19.3	19.05	6.35	7.94	2.4	○	●	○	●																						
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				★										★												

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

Applicable tool

DCLNR/L Kr:95°

Page A164

PCBNR/L Kr:75°

A171

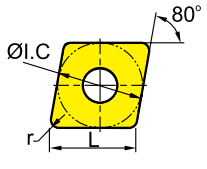
PCLNR/L Kr:95°

A172

PCLNR/L Kr:95°

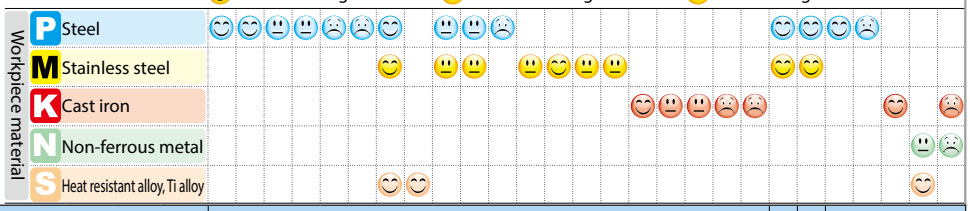
A214

CN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
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				★		○																			
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																○	★		★							

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

Applicable tool

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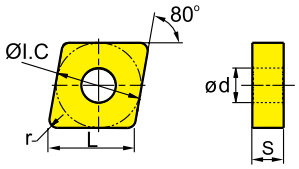
Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

CN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
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	○		○		○													○									
All round 	**CNMM120404**	12.9	12.7	4.76	5.16	0.4	○																										
	CNMM120408	12.9	12.7	4.76	5.16	0.8	○		○																								
	CNMM120412	12.9	12.7	4.76	5.16	1.2	○																						○	○			
	CNMM190608	19.3	19.05	6.35	7.94	0.8					○																		○				
	CNMM190612	19.3	19.05	6.35	7.94	1.2			○		○																						
	CNMM190616	19.3	19.05	6.35	7.94	1.6			○																								
	CNMM190624	19.3	19.05	6.35	7.94	2.4					○																						

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

Applicable tool


DCLNR/L Kr:95°

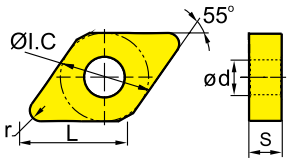

PCBNR/L Kr:75°


PCLNR/L Kr:95°

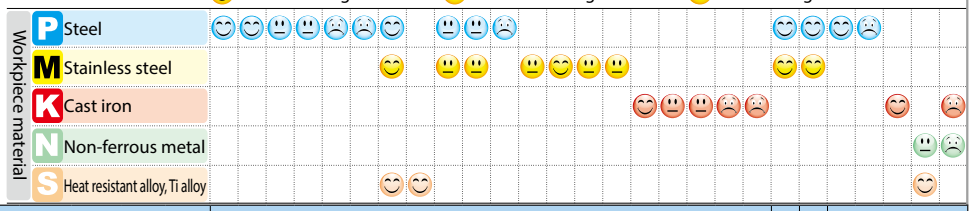

PCLNR/L Kr:95°

Page　A164　A171　A172　A214

DN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DF  For finishing	DNMG110404-DF	11.6	9.525	4.76	3.81	0.4		○	●	○																●						
	DNMG110408-DF	11.6	9.525	4.76	3.81	0.8		○	○	○																						
	DNMG110412-DF	11.6	9.525	4.76	3.81	1.2		○	○																							
	DNMG150404-DF	15.5	12.7	4.76	5.16	0.4		★	●	★																						
	DNMG150408-DF	15.5	12.7	4.76	5.16	0.8		★	●	★																						
	DNMG150412-DF	15.5	12.7	4.76	5.16	1.2		○		○																						
	DNMG150604-DF	15.5	12.7	6.35	5.16	0.4	●	★	●	★										○												
	DNMG150608-DF	15.5	12.7	6.35	5.16	0.8		★	●	○																						
	DNMG150612-DF	15.5	12.7	6.35	5.16	1.2			○																							
WGF  For finishing Wiper	DNMX110404-WGF	11.6	9.525	4.76	3.81	0.4		★											★			★										
	DNMX110408-WGF	11.6	9.525	4.76	3.81	0.8		★											★			★										
	DNMX150404-WGF	15.5	12.7	4.76	5.16	0.4		★											★			★										
	DNMX150408-WGF	15.5	12.7	4.761	5.16	0.8		★											★			★										
	DNMX150604-WGF	15.5	12.7	6.35	5.16	0.4		★											★			★										
	DNMX150608-WGF	15.5	12.7	6.35	5.16	0.8		★											★			★										

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

Applicable tool


DDJNR/L Kr:93°
Page A165


PDJNR/L Kr:93°
A173


PDNNR/L Kr:63°
A174

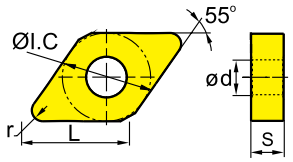

PDSNR/L Kr:62°30'
A215


PDUNR/L Kr:93°
A216

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
SF	DNMG110404-SF	11.6	9.525	4.76	3.81	0.4							○														○	★					
	DNMG150404-SF	15.5	12.7	4.76	5.16	0.4							○														○	★					
	DNMG150408-SF	15.5	12.7	4.76	5.16	0.8							○														○	★					
	DNMG150604-SF	15.5	12.7	6.35	5.16	0.4							○														○	★					
For finishing	DNMG150608-SF	15.5	12.7	6.35	5.16	0.8							○														○	★					
EF	DNMG110404-EF	11.6	9.525	4.76	3.81	0.4									●	★			★														
	DNMG110408-EF	11.6	9.525	4.76	3.81	0.8									○	★			★														
	DNMG110412-EF	11.6	9.525	4.76	3.81	1.2									○	★			★														
	DNMG150404-EF	15.5	12.7	4.76	5.16	0.4									●	★			★														
	DNMG150408-EF	15.5	12.7	4.76	5.16	0.8									●	★			★														
For finishing	DNMG150412-EF	15.5	12.7	4.76	5.16	1.2									○	★			★														
	DNMG150604-EF	15.5	12.7	6.35	5.16	0.4									●	★			★														
	DNMG150608-EF	15.5	12.7	6.35	5.16	0.8									●	★			★														
	DNMG150612-EF	15.5	12.7	6.35	5.16	1.2									○	★			★														
NF	DNEG150404-NF	15.5	12.7	4.76	5.16	0.4							○	★																		○	
	DNEG150408-NF	15.5	12.7	4.76	5.16	0.8							○	★																		○	
	DNEG150604-NF	15.5	12.7	6.35	5.16	0.4							●	★																		○	
For finishing	DNEG150608-NF	15.5	12.7	6.35	5.16	0.8							●	★																		○	

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

Applicable tool


DDJNR/L
Kr:93°
Page A165

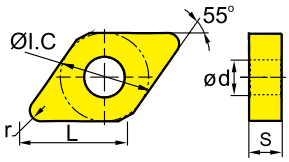

PDJNR/L
Kr:93°
A173


PDNNR/L
Kr:63°
A174


PDSNR/L
Kr:62°30'
A215

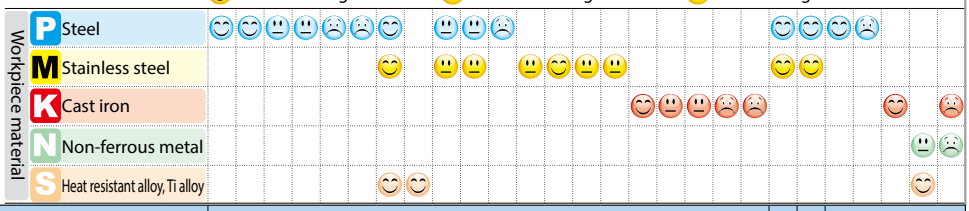

PDUNR/L
Kr:93°
A216

DN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
WGM  For semi-finishing Wiper	**DNMX150408-WGM**	15.5	12.7	4.76	5.16	0.8				★					★									★							
	DNMX150412-WGM	15.5	12.7	4.76	5.161	1.2				★					★									★							
	DNMX150608-WGM	15.5	12.7	6.35	5.16	0.8				★					★									★							
	DNMX150612-WGM	15.5	12.7	6.35	5.16	1.2				★					★									★							
PM  For semi-finishing	**DNMG110404-PM**	11.6	9.525	4.76	3.81	0.4		●	●	○														●							
	DNMG110408-PM	11.6	9.525	4.76	3.81	0.8		●	●	○	○												★	○	○							
	DNMG110412-PM	11.6	9.525	4.76	3.81	1.2			○	○																						
	DNMG150404-PM	15.5	12.7	4.76	5.16	0.4		●	●	○																						
	DNMG150408-PM	15.5	12.7	4.76	5.16	0.8	●	●	●	○	○												★	★	○							
	DNMG150412-PM	15.5	12.7	4.76	5.16	1.2			●	○			○										○	★	○							
	DNMG150416-PM	15.5	12.7	4.76	5.16	1.6			○	○																						
	DNMG150604-PM	15.5	12.7	6.35	5.16	0.4		●	●	○	○												★	★								
	DNMG150608-PM	15.5	12.7	6.35	5.16	0.8	●	○	●	★	●												★	★	○							
	DNMG150612-PM	15.5	12.7	6.35	5.16	1.2		★	●	★	○												★	○								
	DNMG150616-PM	15.5	12.7	6.35	5.16	1.6			○	○																						

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

Applicable tool

DDJNR/L Kr:93°

Page A165

PDJNR/L Kr:93°

A173

PDNNR/L Kr:63°

A174

PDSNR/L Kr:62°30'

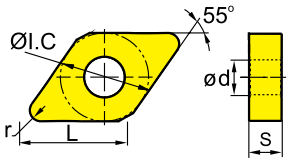
A215

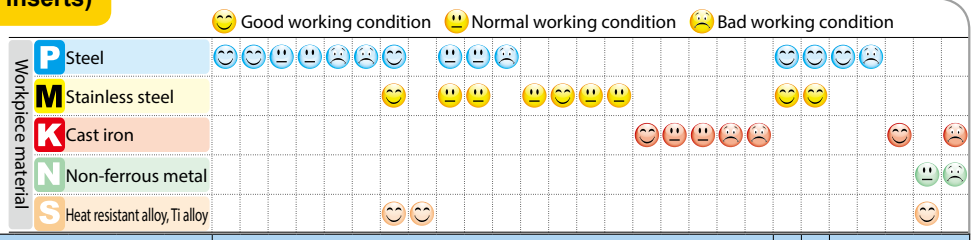
PDUNR/L Kr:93°

A216

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

DN□□ (Negative inserts)





Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DM	DNMG110404-DM	11.6	9.525	4.76	3.81	0.4	●	●	○											○												
	DNMG110408-DM	11.6	9.525	4.76	3.81	0.8	★	●	★	○										●												
	DNMG110412-DM	11.6	9.525	4.76	3.81	1.2	○		○																							
	DNMG150404-DM	15.5	12.7	4.76	5.16	0.4	○	●	★																	○						
	DNMG150408-DM	15.5	12.7	4.76	5.16	0.8	★	●	★																	●						
	DNMG150412-DM	15.5	12.7	4.76	5.16	1.2	★	○	★																							
	DNMG150416-DM	15.5	12.7	4.76	5.16	1.6			○																							
	DNMG150604-DM	15.5	12.7	6.35	5.16	0.4	★	●	★	○										●						●						
	DNMG150608-DM	15.5	12.7	6.35	5.16	0.8	★	●	★	●										●												
	DNMG150612-DM	15.5	12.7	6.35	5.16	1.2	●	●	★	○																						
	DNMG150616-DM	15.5	12.7	6.35	5.16	1.6	○	○	○																							
EM	DNMG110404-EM	11.6	9.525	4.76	3.81	0.4									○	★					★											
	DNMG110408-EM	11.6	9.525	4.76	3.81	0.8									○	★					★											
	DNMG110412-EM	11.6	9.525	4.76	3.81	1.2									○	★					★											
	DNMG150404-EM	15.5	12.7	4.76	5.16	0.4									●	★					★											
	DNMG150408-EM	15.5	12.7	4.76	5.16	0.8									●	★					★											
	DNMG150412-EM	15.5	12.7	4.76	5.16	1.2									○	★					★											
	DNMG150604-EM	15.5	12.7	6.35	5.16	0.4							○		●	★					★											
	DNMG150608-EM	15.5	12.7	6.35	5.16	0.8									●	★					★											
	DNMG150612-EM	15.5	12.7	6.35	5.16	1.2									○	★					★											
NM	DNMG150412-NM	15.5	12.7	4.76	5.16	1.2							○	★																	○	
	DNMG150612-NM	15.5	12.7	6.35	5.16	1.2							●	★																	○	

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

DM: For semi-finishing

EM: For semi-finishing

NM: For semi-finishing

Applicable tool


DDJNR/L Kr:93°
Page A165

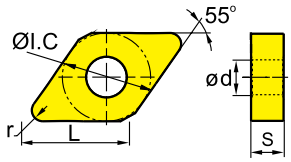

PDJNR/L Kr:93°
A173


PDNNR/L Kr:63°
A174


PDSNR/L Kr:62°30'
A215


PDUNR/L Kr:93°
A216

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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
LR	DNMM150608-LR	15.5	12.7	6.35	5.16	0.8				★																						
	DNMM150612-LR	15.5	12.7	6.35	5.16	1.2				★																						
Light-load roughing	DNMM150616-LR	15.5	12.7	6.35	5.16	1.6				★																						
DR	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	★	○	○	○													●		●							
For light roughing	DNMG150612-DR	15.5	12.7	6.35	5.16	1.2	○	●	★	○													○		●							
	DNMG150616-DR	15.5	12.7	6.35	5.16	1.6					○														○							
DR	DNMM150608-DR	15.5	12.7	6.35	5.16	0.8	○	○																								
	DNMM150612-DR	15.5	12.7	6.35	5.16	1.2	○	●																								
For roughing	DNMM150616-DR	15.5	12.7	6.35	5.16	1.6					○																					
ER	DNMG150608-ER	15.5	12.7	6.35	5.16	0.8															★											
	DNMG150612-ER	15.5	12.7	6.35	5.16	1.2															★											
For roughing																																
ER	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																																

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

Applicable tool


DDJNR/L Kr:93°
Page A165


PDJNR/L Kr:93°
A173


PDNNR/L Kr:63°
A174

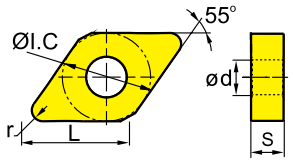

PDSNR/L Kr:62°30'
A215


PDUNR/L Kr:93°
A216

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
All round	**DNMG150604**	15.5	12.7	6.35	5.16	0.4			○																							
	DNMG150608	15.5	12.7	6.35	5.16	0.8			○																							
	DNMG150612	15.5	12.7	6.35	5.16	1.2			○																							
	DNMG150616	15.5	12.7	6.35	5.16	1.6			○																							
	DNMG190608	19.3	15.875	6.35	7.94	0.8			○																							
	DNMG190612	19.3	15.875	6.35	7.94	1.2			○		○																		○				
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

Applicable tool


DDJNR/L Kr:93° — Page A165

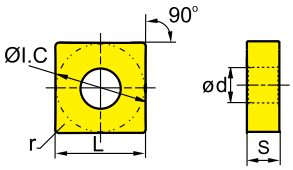

PDJNR/L Kr:93° — A173


PDNNR/L Kr:63° — A174


PDSNR/L Kr:62°30' — A215


PDUNR/L Kr:93° — A216

SN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material

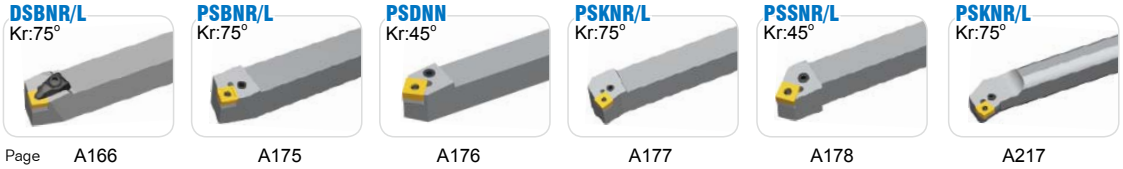
P	Steel
M	Stainless steel
K	Cast iron
N	Non-ferrous metal
S	Heat resistant alloy, Ti alloy

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DF	SNMG090304-DF	9.525	9.525	3.18	3.81	0.4		○																								
	SNMG090308-DF	9.525	9.525	3.18	3.81	0.8		○																								
	SNMG120404-DF	12.7	12.7	4.76	5.16	0.4		○																								
	SNMG120408-DF	12.7	12.7	4.76	5.16	0.8		○	●	○																○						
	SNMG120412-DF	12.7	12.7	4.76	5.16	1.2		○		○																						
EF	SNMG090304-EF	9.525	9.525	3.18	3.81	0.4									○	★			★													
	SNMG090308-EF	9.525	9.525	3.18	3.81	0.8									○	★			★													
	SNMG090312-EF	9.525	9.525	3.18	3.81	1.2									○	★			★													
	SNMG120404-EF	12.7	12.7	4.76	5.16	0.4									●	★			★													
	SNMG120408-EF	12.7	12.7	4.76	5.16	0.8									●	★			★													
	SNMG120412-EF	12.7	12.7	4.76	5.16	1.2									○	★			★													
	SNMG150608-EF	15.875	15.875	6.35	6.35	0.8									○	★			★													
	SNMG150612-EF	15.875	15.875	6.35	6.35	1.2									○	★			★													
SF	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							○														○					

For finishing

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

Applicable tool



Page A166 A175 A176 A177 A178 A217

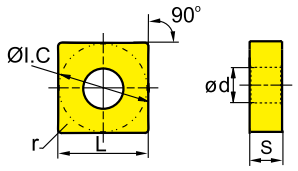
Insert code key A48–A49

Grade selection reference A19/A34–A46

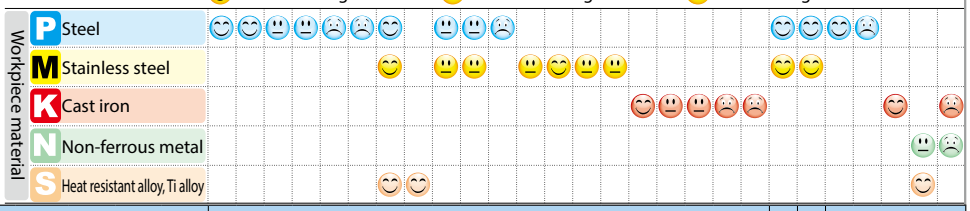
Chipbreaker selection reference A22–A33

Recommended cutting parameters A243–A245

SN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
PM	SNMG090304-PM	9.525	9.525	3.18	3.81	0.4		○	●	○																						
	SNMG090308-PM	9.525	9.525	3.18	3.81	0.8		○	●	○	○												○									
	SNMG090312-PM	9.525	9.525	3.18	3.81	1.2		○		○																						
	SNMG120404-PM	12.7	12.7	4.76	5.16	0.4		○	●	○	○												○									
	SNMG120408-PM	12.7	12.7	4.76	5.16	0.8		●	●	○	●												★		★	★						
	SNMG120412-PM	12.7	12.7	4.76	5.16	1.2		●	●	○	○												★		★	★						
	SNMG120416-PM	12.7	12.7	4.76	5.16	1.6			●	○	○														○							
	SNMG150608-PM	15.875	15.875	6.35	6.35	0.8				○																						
	SNMG150612-PM	15.875	15.875	6.35	6.35	1.2		●	●	○													○		●							
	SNMG190616-PM	19.05	19.05	6.35	7.94	1.6			●	○																						
DM	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				○																						

PM: For semi-finishing

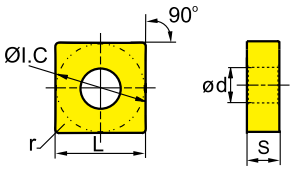
DM: For semi-finishing

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

Applicable tool

Page A166 A175 A176 A177 A178 A217

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
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									○						★											
NM  For semi-finishing	SNMG120408-NM	12.7	12.7	4.76	5.16	0.8							●	★																	○	
	SNMG120412-NM	12.7	12.7	4.76	5.16	1.2							○	★																	○	
LR  Light-load roughing	SNMM120408-LR	12.9	12.7	4.76	5.16	0.8				★																						
	SNMM120412-LR	12.9	12.7	4.76	5.16	1.2				★																						
	SNMM120416-LR	12.9	12.7	4.76	5.16	1.6				★																						
	SNMM150612-LR	15.875	15.875	6.35	6.35	1.2				★																						
	SNMM150616-LR	15.875	15.875	6.35	6.35	1.6				★																						
	SNMM190612-LR	19.3	19.05	6.35	7.94	1.2				★																						
	SNMM190616-LR	19.3	19.05	6.35	7.94	1.6				★																						
	SNMM190624-LR	19.3	19.05	6.35	7.94	2.4				★																						
	SNMM250924-LR	25.79	25.4	9.525	9.12	2.4				★																						

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

Applicable tool


DSBNR/L Kr:75°
Page A166


PSBNR/L Kr:75°
A175


PSDNN Kr:45°
A176

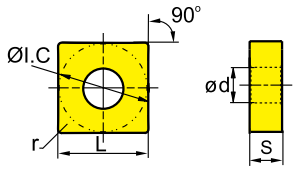

PSKNR/L Kr:75°
A177


PSSNR/L Kr:45°
A178


PSKNR/L Kr:75°
A217

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DR  For light 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			●	○	○																						
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					○																						

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

Applicable tool


DSBNR/L Kr:75°
Page A166


PSBNR/L Kr:75°
A175

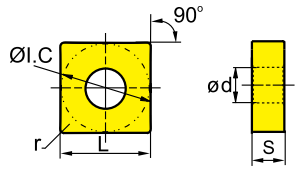

PSDNN Kr:45°
A176


PSKNR/L Kr:75°
A177


PSSNR/L Kr:45°
A178

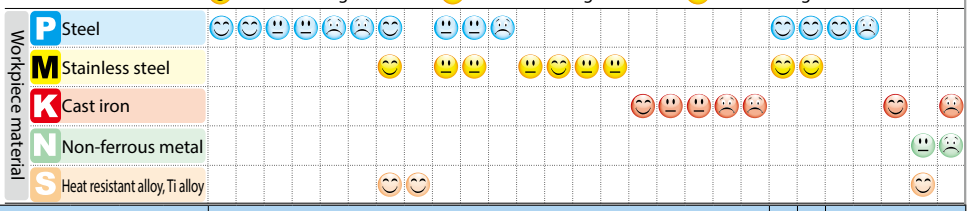

PSKNR/L Kr:75°
A217

SN□□ (Negative inserts)



Good working condition　Normal working condition　Bad working condition

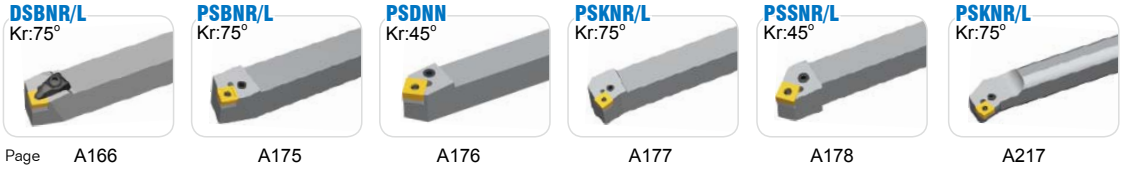
Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DR	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			●		○																					
For roughing	SNMM250924-DR	25.4	25.4	9.525	9.12	2.4			●	★	●																					
ER	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															★											
For roughing	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

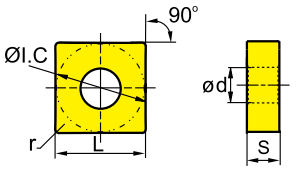


Page　A166　A175　A176　A177　A178　A217

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
ER	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				●											★											
For roughing	SNMM250932-ER	25.4	25.4	9.525	9.12	3.2				●											★											
HPR	SNMM190616-HPR	19.5	19.05	6.35	7.94	1.6				★		○																				
	SNMM250924-HPR	25.4	25.4	9.525	9.12	2.4				★		○																				
For heavy machining																																

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

Applicable tool


DSBNR/L
Kr:75°
Page A166


PSBNR/L
Kr:75°
A175

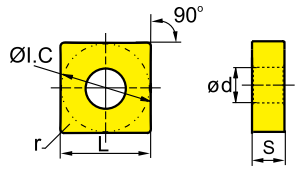

PSDNN
Kr:45°
A176


PSKNR/L
Kr:75°
A177


PSSNR/L
Kr:45°
A178


PSKNR/L
Kr:75°
A217

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
All round 	**SNMG090304**	9.525	9.525	3.18	3.81	0.4			○																							
	SNMG090308	9.525	9.525	3.18	3.81	0.8			○		○																					
	SNMG120404	12.7	12.7	4.76	5.16	0.4			●																							
	SNMG120408	12.7	12.7	4.76	5.16	0.8	○		●		○									●				●	○							
	SNMG120412	12.7	12.7	4.76	5.16	1.2			○	○	●																					
	SNMG120416	12.7	12.7	4.76	5.16	1.6	○		○																							
	SNMG150608	15.875	15.875	6.35	6.35	0.8			○																							
	SNMG150612	15.875	15.875	6.35	6.35	1.2	○		●																							
	SNMG190612	19.05	19.05	6.35	7.94	1.2	○		●		○																					
	SNMG190616	19.05	19.05	6.35	7.94	1.6	○		●																							
	SNMG250724	25.4	25.4	7.94	9.12	2.4	○		○		●																					
	SNMG250924	25.4	25.4	9.525	9.12	2.4			○		●																					
All round 	**SNMM090304**	9.525	9.525	3.18	3.81	0.4																										○
	SNMM090308	9.525	9.525	3.18	3.81	0.8			○																							
	SNMM120408	12.7	12.7	4.76	5.16	0.8	○																									
	SNMM120412	12.7	12.7	4.76	5.16	1.2			○																							
	SNMM120416	12.7	12.7	4.76	5.16	1.6			○																							

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

Applicable tool


DSBNR/L Kr:75° — Page A166


PSBNR/L Kr:75° — A175


PSDNN Kr:45° — A176

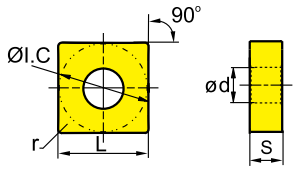

PSKNR/L Kr:75° — A177


PSSNR/L Kr:45° — A178


PSKNR/L Kr:75° — A217

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
All round	**SNMM190608**	19.05	19.05	6.35	7.94	0.8			○																							
	SNMM190612	19.05	19.05	6.35	7.94	1.2			○																							
	SNMM190616	19.05	19.05	6.35	7.94	1.6																							●			
	SNMM250724	25.4	25.4	7.94	9.12	2.4			●		●													○								
	SNMM250924	25.4	25.4	9.525	9.12	2.4					○																					
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

Applicable tool


DSBNR/L
Kr:75°
Page A166


PSBNR/L
Kr:75°
A175

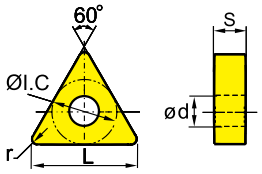

PSDNN
Kr:45°
A176


PSKNR/L
Kr:75°
A177


PSSNR/L
Kr:45°
A178

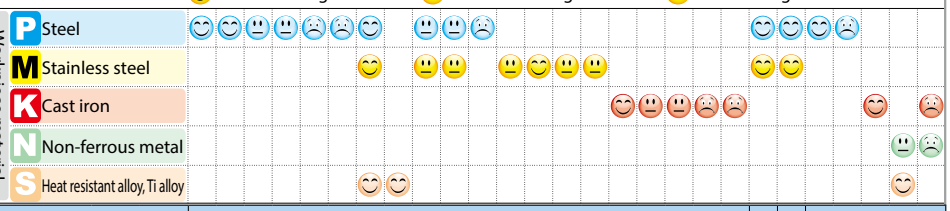

PSKNR/L
Kr:75°
A217

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DF  For finishing	**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	0.8		○																									
WGF  For finishing Wiper	**TNMX160404-WGF**	16.5	9.525	4.76	3.81	0.4		★											★			★											
	TNMX160408-WGF	16.5	9.525	4.76	3.81	0.8		★											★			★											
SF  For finishing	**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							○														○	★					

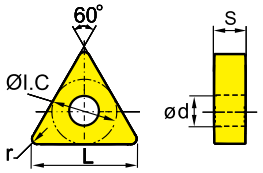
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool

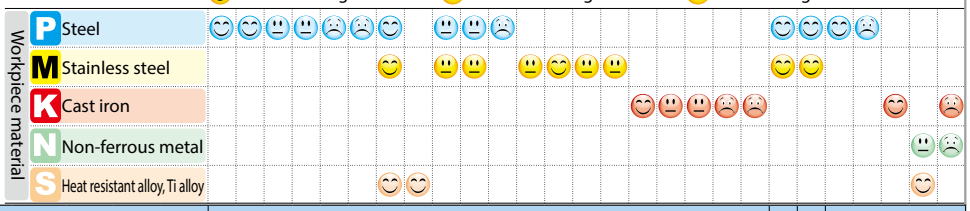
Page A167 A179 A180 A181 A218

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition



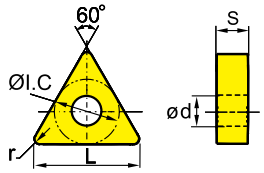
Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
EF  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									○	★			★														
WGM  For semi-finishing Wiper	**TNMX160408-WGM**	16.5	9.525	4.76	3.81	0.8				★						★									★								
	TNMX160412-WGM	16.5	9.525	4.76	3.81	1.2				★						★									★								
PM  For semi-finishing	**TNMG110304-PM**	11	6.35	3.18	2.26	0.4		★	●	○																							
	TNMG110308-PM	11	6.35	3.18	2.26	0.8		★	○	○																							
	TNMG160404-PM	16.5	9.525	4.76	3.81	0.4		★	●	★													★		★								
	TNMG160408-PM	16.5	9.525	4.76	3.81	0.8		★	●	★	●		○										★		★	★							
	TNMG160412-PM	16.5	9.525	4.76	3.81	1.2		★	●	○	○												★		★	○							
	TNMG220408-PM	22	12.7	4.76	5.16	0.8		★	●	○	●												★		○	○							
	TNMG220412-PM	22	12.7	4.76	5.16	1.2	●	★	●	○	○												○		○								
	TNMG220416-PM	22	12.7	4.76	5.16	1.6			○	○															○								

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

Applicable tool

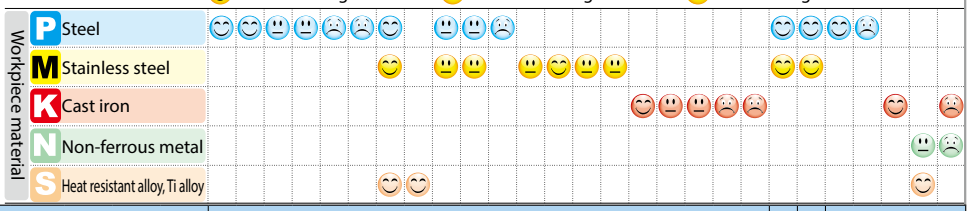
Page A167 A179 A180 A181 A218

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DM	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	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									○	★					★												
LR	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				★																							

For semi-finishing

For semi-finishing

Light-load roughing

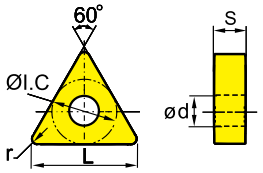
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool

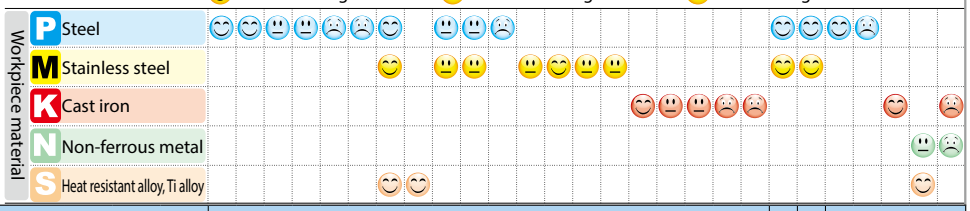
Page A167 A179 A180 A181 A218

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DR	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					○																						
DR	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	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															★												

For light roughing

For roughing

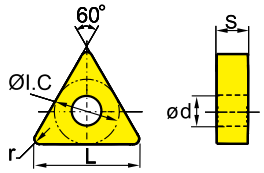
For roughing

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

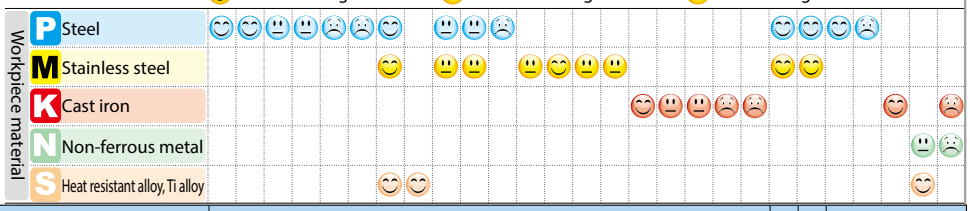
Applicable tool

Page A167 A179 A180 A181 A218

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
All round 	**TNMG110308**	11	6.35	3.18	2.26	0.8																		○									
	TNMG160404	16.5	9.525	4.76	3.81	0.4	○		●															●									
	TNMG160408	16.5	9.525	4.76	3.81	0.8	●	○	●															●									
	TNMG160412	16.5	9.525	4.76	3.81	1.2	●		●	○										○				○									
	TNMG220404	22	12.7	4.76	5.16	0.4	○		●		○													●									
	TNMG220408	22	12.7	4.76	5.16	0.8	○		●		○									○				○					○				
	TNMG220412	22	12.7	4.76	5.16	1.2	●		●		○													●					○				
	TNMG220416	22	12.7	4.76	5.16	1.6																		●									
	TNMG270612	27.5	15.875	6.35	6.35	1.2			●		●													○						○			
	TNMG270616	27.5	15.875	6.35	6.35	1.6			○		○																						
	TNMG330916	33	19.05	9.525	7.94	1.6					●																						
	TNMG330924	33	19.05	9.525	7.94	2.4	○		○		●																						

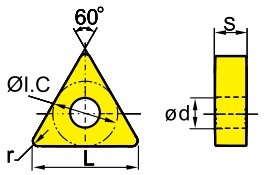
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool

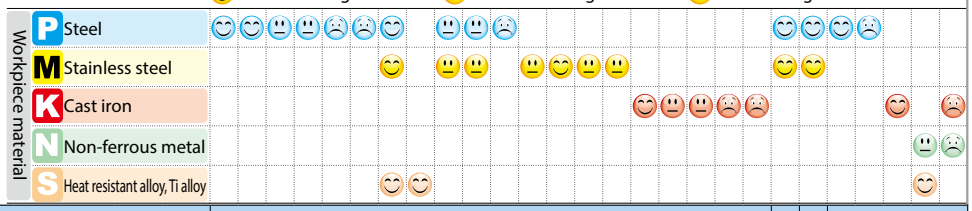
Page A167 A179 A180 A181 A218

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
All round	**TNMM160404**	16.5	9.525	4.76	3.81	0.4			○																							
	TNMM160408	16.5	9.525	4.76	3.81	0.8					○																						
	TNMM160412	16.5	9.525	4.76	3.81	1.2	○		○																				○				
	TNMM220408	22	12.7	4.76	5.16	0.8			○																								
	TNMM220412	22	12.7	4.76	5.16	1.2			●		○									○														
	TNMM220416	22	12.7	4.76	5.16	1.6					○																						
	TNMM270616	27.5	15.875	6.35	6.35	1.6			●		○																						
Without chipbreaker	**TNMA160404**	16.5	9.525	4.76	3.81	0.4																○	★	●	★								
	TNMA160408	16.5	9.525	4.76	3.81	0.8	○															★	★	●	★					○		○	
	TNMA160412	16.5	9.525	4.76	3.81	1.2																★	○		○								
	TNMA160416	16.5	9.525	4.76	3.81	1.6																		○									
	TNMA220404	22	12.7	4.76	5.16	0.4																○	○	○	○								
	TNMA220408	22	12.7	4.76	5.16	0.8																○	○	○	○								
	TNMA270616	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


DTGNR/L
Kr:91°
Page A167

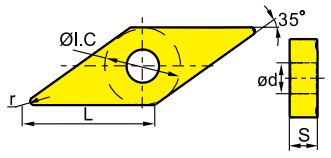

PTFNR/L
Kr:91°
A179


PTTNR/L
Kr:60°
A180


PTGNR/L
Kr:90°
A181

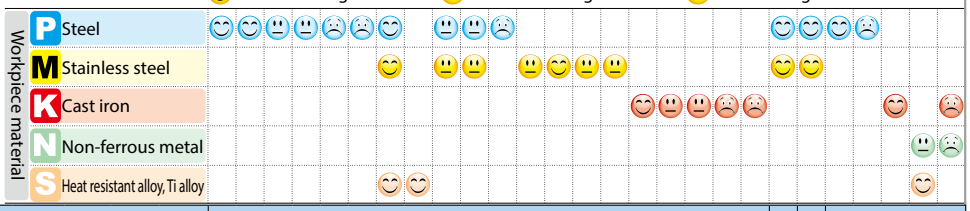

PTFNR/L
Kr:90°
A218

VN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
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									○	★			★												
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							○	★																○	
SF  For finishing	**VNMG160404-SF**	16.6	9.525	4.76	3.81	0.4							○													○	★				
	VNMG160408-SF	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 Kr:72°30'

Page A168

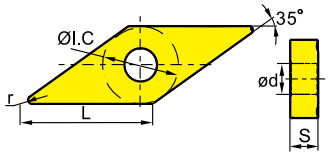
DVJNR/L Kr:93°

A169

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

VN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
PM	VNMG160404-PM	16.6	9.525	4.76	3.81	0.4	★	●	○	○															○	○							
	VNMG160408-PM	16.6	9.525	4.76	3.81	0.8	★	●	○														★		★	○							
For semi-finishing	VNMG160412-PM	16.6	9.525	4.76	3.81	1.2			○	○													○		○								
DM	VNMG160408-DM	16.6	9.525	4.76	3.81	0.8	★	●	★	○										○													
	VNMG160412-DM	16.6	9.525	4.76	3.81	1.2		○	○	○										○													
For semi-finishing																																	
EM	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																																	
NM	VNMG160412-NM	16.6	9.525	4.76	3.81	1.2							○	★																		○	
For semi-finishing																																	
All round	VNMG160404	16.6	9.525	4.76	3.81	0.4	○		○															●									
	VNMG160408	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

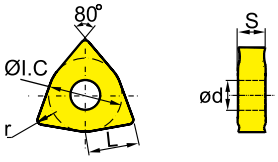
DVVNN
Kr:72°30'

Page A168

DVJNR/L
Kr:93°

Page A169

WN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
DF  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		○	○	○																						
WGF  For finishing Wiper	WNMG060404-WGF	6.5	9.525	4.76	3.81	0.4		★											★			★										
	WNMG060408-WGF	6.5	9.525	4.76	3.81	0.8		★											★			★										
	WNMG080404-WGF	8.7	12.7	4.76	5.16	0.4		★											★			★										
	WNMG080408-WGF	8.7	12.7	4.76	5.16	0.8		★											★			★										
SF  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

DWLNR/L Kr:95°

Page A170

PWLNR/L Kr:95°

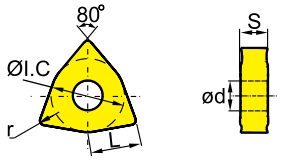
A182

PWLNR/L Kr:95°

A219

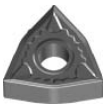
Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

WN□□ (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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
EF  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							○		●	★			★														
NF  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							○	★																		○	
WGM  For semi-finishing Wiper	**WNMG060408-WGM**	6.5	9.525	4.76	3.81	0.8				★						★									★								
	WNMG060412-WGM	6.5	9.525	4.76	3.81	1.2				★						★									★								
	WNMG080408-WGM	8.7	12.7	4.76	5.16	0.8				★						★									★								
	WNMG080412-WGM	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

DWLNR/L Kr:95°

Page A170

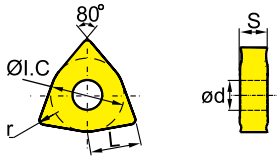
PWLNR/L Kr:95°

A182

PWLNR/L Kr:95°

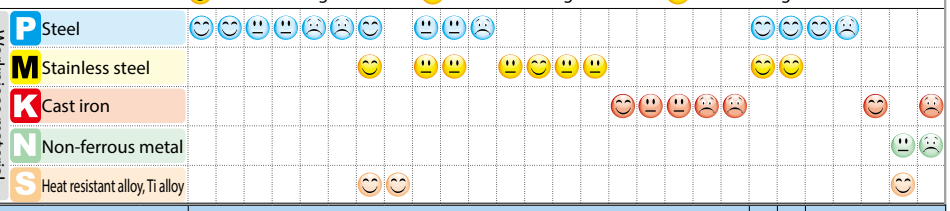
A219

WN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
PM	WNMG060408-PM	6.5	9.525	4.76	3.81	0.8	★	●	○	○													★		★								
	WNMG060412-PM	6.5	9.525	4.76	3.81	1.2	○		○														★		★								
	WNMG080404-PM	8.7	12.7	4.76	5.16	0.4	○	●	○	○																							
	WNMG080408-PM	8.7	12.7	4.76	5.16	0.8	★	●	★	●													★		★	★							
	WNMG080412-PM	8.7	12.7	4.76	5.16	1.2	★	●	★	●													★		★	★							
	WNMG080416-PM	8.7	12.7	4.76	5.16	1.6			○														○		○								
	WNMG080608-PM	8.7	12.7	6.35	5.16	0.8			○																								
DM	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	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									●	★					★												

For semi-finishing

For semi-finishing

For semi-finishing

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

Applicable tool

DWLNR/L Kr:95°

Page A170

PWLNR/L Kr:95°

A182

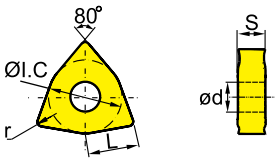
PWLNR/L Kr:95°

A219

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

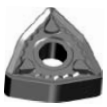
WN□□ (Negative inserts)



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 cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
NM  For semi-finishing	**WNMG080408-NM**	8.7	12.7	4.76	5.16	0.8							○	★																		○	
	WNMG080412-NM	8.7	12.7	4.76	5.16	1.2							○	★																		○	
DR  For roughing	**WNMG060408-DR**	6.5	9.525	4.76	3.81	0.8		○	○	○													○										
	WNMG060412-DR	6.5	9.525	4.76	3.81	1.2			○	○	○												○		○								
	WNMG080408-DR	8.7	12.7	4.76	5.16	0.8		○	○	★	○												●		●								
	WNMG080412-DR	8.7	12.7	4.76	5.16	1.2		○	○	★	○												●		●								
	WNMG080416-DR	8.7	12.7	4.76	5.16	1.6				○													○		○								
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

DWLNR/L Kr:95°

Page A170

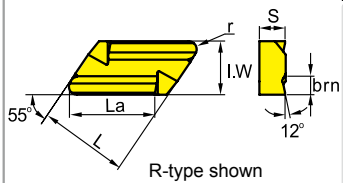
PWLNR/L Kr:95°

A182

PWLNR/L Kr:95°

A219

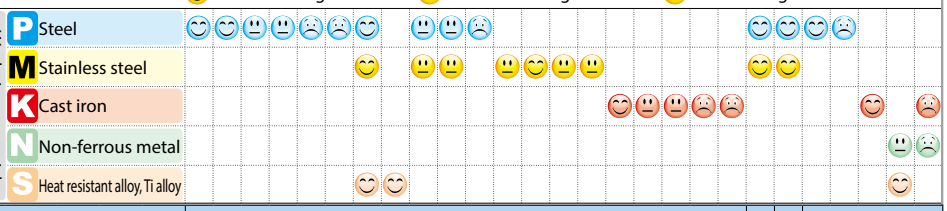
KN□□ (Negative inserts)



R-type shown

Good working condition　Normal working condition　Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)						Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		La	L	I.W	S	brn	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
Profile turning	KNUX160405L11	16	16.15	9.525	4.76	2.2	0.5	○		●	★	○									●									○				
	KNUX160410L11	16	16.15	9.525	4.76	2.2	1.0			●											○													
	KNUX160405L12	16	16.15	9.525	4.76	2.2	0.5	○		●											○													
	KNUX160410L12	16	16.15	9.525	4.76	2.2	1.0	○	○	●											○									○				
	KNUX160415L12	16	16.15	9.525	4.76	2.2	1.5			○																								
	KNUX160405R11	16	16.15	9.525	4.76	2.2	0.5	●		●	○	●									●									●				
	KNUX160410R11	16	16.15	9.525	4.76	2.2	1.0	○		●											○									○				
	KNUX160405R12	16	16.15	9.525	4.76	2.2	0.5	●		●											○													
	KNUX160410R12	16	16.15	9.525	4.76	2.2	1.0	○	○	●		○									○									●				
	KNUX160415R12	16	16.15	9.525	4.76	2.2	1.5			○																								

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

Note: KNUX160405L11
└Chipbreaker code: 11→Declining chipbreaker　12→Straight chipbreaker

Applicable tool

CKJNR/L Kr:93°

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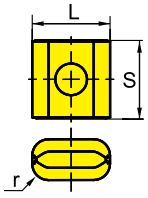
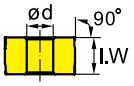
CKNNR/L Kr:63°

A201

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Heavy turning(Negative inserts)





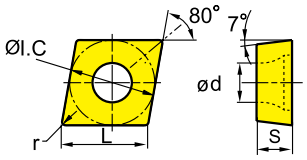
Good working condition　Normal working condition　Bad working condition

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 cermet	Cemented carbide				
		L	l.W	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
 Inserts for train wheel hub	**175.32-191940-22**	19.05	10	19.05	6.35	4.0	●		●																							
	175.32-191940-227	19.05	10	19.05	7.2	4.0			●																							
 Inserts for train wheel hub	**175.32-191940-24**	19.05	10	19.05	6.35	4.0	○		●																							
	175.32-301940-24	30	10	19.05	6.35	4.0	○		●																							
 Inserts for train wheel hub	**175.32-191940-25**	19.05	10	19.05	6.35	4.0			●																							
 Inserts for train wheel hub	**175.32-191940-28**	19.05	10	19.05	6.35	4.0	●	★	●	○																						

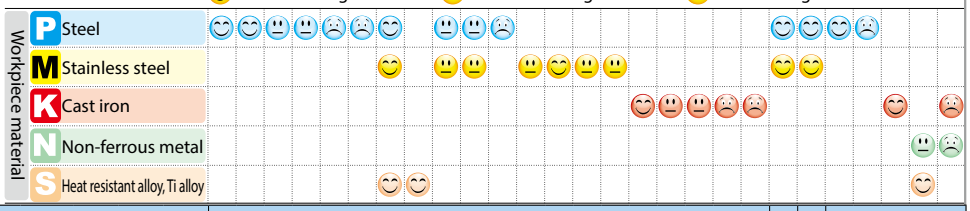
★Recommended grade (always stock available)　●Available grade (always stock available)　○Make-to-order

CC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
USF  For extra finishing	CCGT09T301R-USF	9.7	9.525	3.97	4.4	0.1									○	○																	
	CCGT09T302R-USF	9.7	9.525	3.97	4.4	0.2									●	○																	
	CCGT09T304R-USF	9.7	9.525	3.97	4.4	0.4									○	○																	
USF  For extra finishing	CCGT09T301L-USF	9.7	9.525	3.97	4.4	0.1									○	○																	
	CCGT09T302L-USF	9.7	9.525	3.97	4.4	0.2									●	○																	
	CCGT09T304L-USF	9.7	9.525	3.97	4.4	0.4									○	○																	
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							○														○	★					
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

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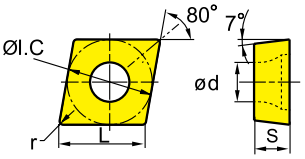
Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

CC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
EF	CCMT060202-EF	6.4	6.35	2.38	2.8	0.2							○		●	★			★														
	CCMT060204-EF	6.4	6.35	2.38	2.8	0.4							○		●	★			★														
	CCMT09T302-EF	9.7	9.525	3.97	4.4	0.2							○		●	★			★														
	CCMT09T304-EF	9.7	9.525	3.97	4.4	0.4							○		●	★			★														
	CCMT09T308-EF	9.7	9.525	3.97	4.4	0.8							○		●	★			○														
	CCMT120404-EF	12.9	12.7	4.76	5.56	0.4							○		●	★			★														
	CCMT120408-EF	12.9	12.7	4.76	5.56	0.8							○		●	★			○														
HM	CCMT060204-HM	6.4	6.35	2.38	2.8	0.4		★	●	★	○				●					●			●		●								●
	CCMT060208-HM	6.4	6.35	2.38	2.8	0.8		★	●	○	○				●					○			○		●								
	CCMT09T304-HM	9.7	9.525	3.97	4.4	0.4	●	★	●	★	●				●					●			●		●								
	CCMT09T308-HM	9.7	9.525	3.97	4.4	0.8		★	●	★	●				●					●			●		●								
	CCMT120404-HM	12.9	12.7	4.76	5.56	0.4		★	●	○	○									○			○		○								
	CCMT120408-HM	12.9	12.7	4.76	5.56	0.8		★	●	★	●				○					●			●		●								
	CCMT120412-HM	12.9	12.7	4.76	5.56	1.2		○	○														○										
EM	CCMT060204-EM	6.4	6.35	2.38	2.8	0.4									●	★					★												
	CCMT060208-EM	6.4	6.35	2.38	2.8	0.8									●	★					★												
	CCMT09T304-EM	9.7	9.525	3.97	4.4	0.4									●	★					★												
	CCMT09T308-EM	9.7	9.525	3.97	4.4	0.8									●	★					★												
	CCMT120404-EM	12.9	12.7	4.76	5.56	0.4									●	★					★												
	CCMT120408-EM	12.9	12.7	4.76	5.56	0.8									●	★					★												
	CCMT120412-EM	12.9	12.7	4.76	5.56	1.2									●	★					★												

For finishing

For semi-finishing

For semi-finishing

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

Applicable tool


SCACR/L Kr:90°
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SCLCR/L Kr:95°
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SCLCR/L Kr:95°
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SCFCR Kr:90°
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SCLCR Kr:95°
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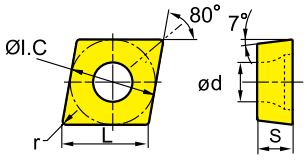
CC□□ (Positive inserts)



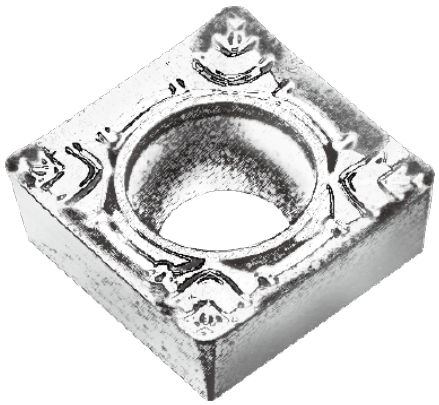
Good working condition Normal working condition Bad working condition

Workpiece material

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	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	○	●		●										○			●		○							
LC  For Al 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 Al 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																									★	

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



Applicable tool


SCACR/L Kr:90°
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SCLCR/L Kr:95°
A184

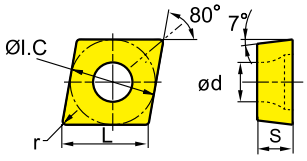

SCLCR/L Kr:95°
A220


SCFCR Kr:90°
A234


SCLCR Kr:95°
A235

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

CC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
LH  For Al machining	**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																									○	
Without chipbreaker 	**CCMW060204**	6.4	6.35	2.38	2.8	0.4																		○					○	●	
	CCMW09T304	9.7	9.525	3.97	4.4	0.4																		○						●	●
	CCMW09T308	9.7	9.525	3.97	4.4	0.8	○																	○						○	○	
	CCMW120404	12.9	12.7	4.76	5.56	0.4																										●
	CCMW120408	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 Kr:90°
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SCLCR/L Kr:95°
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SCLCR/L Kr:95°
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SCFCR Kr:90°
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SCLCR Kr:95°
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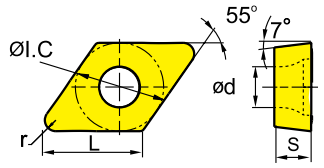
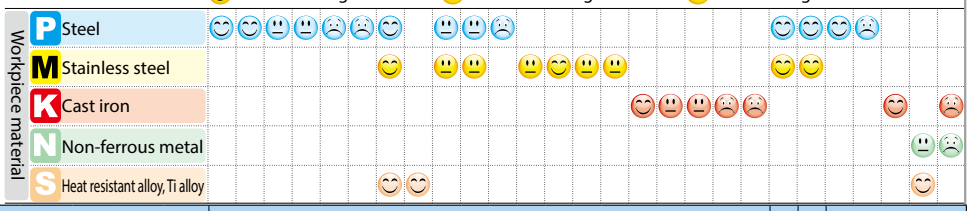
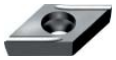
DC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



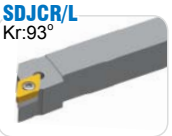
Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
USF	DCGT0702005R-USF	7.8	6.35	2.38	2.8	0.05									●	○																
	DCGT070201R-USF	7.8	6.35	2.38	2.8	0.1									●	○																
	DCGT070202R-USF	7.8	6.35	2.38	2.8	0.2									●	○																
For extra finishing	DCGT11T301R-USF	11.6	9.525	3.97	4.4	0.1									○	○																
	DCGT11T302R-USF	11.6	9.525	3.97	4.4	0.2									●	○																
USF	DCGT0702005L-USF	7.8	6.35	2.38	2.8	0.05									○	○																
	DCGT070201L-USF	7.8	6.35	2.38	2.8	0.1									○	○																
	DCGT070202L-USF	7.8	6.35	2.38	2.8	0.2									●	○																
For extra finishing	DCGT11T301L-USF	11.6	9.525	3.97	4.4	0.1									○	○																
	DCGT11T302L-USF	11.6	9.525	3.97	4.4	0.2									●	○																
SF	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							○																			
For extra finishing	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							○														○	○				
HF	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		○	○		○																					
For finishing	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		★	●	○					○												○					

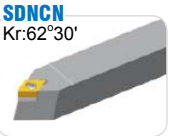
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool

SDACR/L Kr:90°

Page A185

SDJCR/L Kr:93°

A186

SDNCN Kr:62°30'

A187

SDQCR/L Kr:107°30'

A221

SDUCR/L Kr:93°

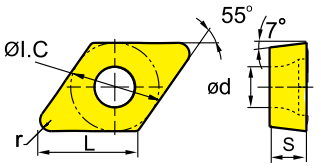
A222

SDZCR/L Kr:95°

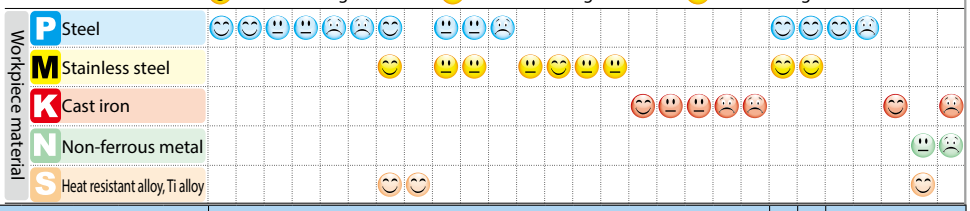
A223

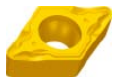
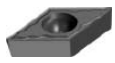
Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

DC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
EF	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							○		●	★			★														
For finishing	DCMT11T308-EF	11.6	9.525	3.97	4.4	0.8							○		●	★			○														
HM	DCMT070204-HM	7.8	6.35	2.38	2.8	0.4		★	●	★	●				●					●					●								
	DCMT070208-HM	7.8	6.35	2.38	2.8	0.8		★	●	★					○					○					○								
	DCMT11T304-HM	11.6	9.525	3.97	4.4	0.4	●	★	●	★	○				●					●			●		●		●		○			●	○
	DCMT11T308-HM	11.6	9.525	3.97	4.4	0.8	●	★	●	★	●				●					●			●		○		○						○
For semi-finishing	DCMT11T312-HM	11.6	9.525	3.97	4.4	1.2			○																								
EM	DCMT070204-EM	7.8	6.35	2.38	2.8	0.4									●	★					★												
	DCMT070208-EM	7.8	6.35	2.38	2.8	0.8									●	★					★												
	DCMT11T304-EM	11.6	9.525	3.97	4.4	0.4									●	★					★												
For semi-finishing	DCMT11T308-EM	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
Kr:90°
Page A185


SDJCR/L
Kr:93°
A186

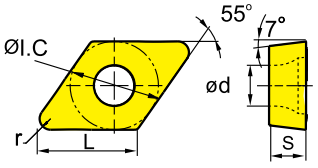

SDNCN
Kr:62°30'
A187


SDQCR/L
Kr:107°30'
A221


SDUCR/L
Kr:93°
A222

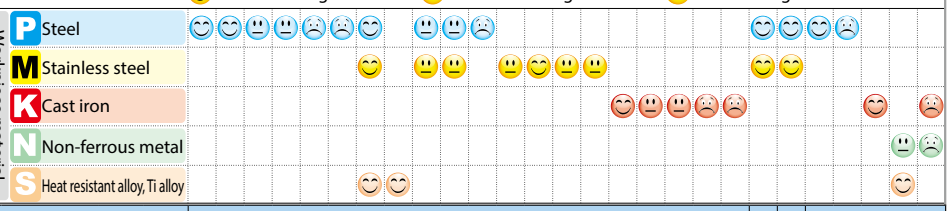

SDZCR/L
Kr:95°
A223

DC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
HR	**DCMT11T304-HR**	11.6	9.525	3.97	4.4	0.4	○	●	○	○										○			○		●							
	DCMT11T308-HR	11.6	9.525	3.97	4.4	0.8	●	●	★	○										○		○	●		●				○			
	DCMT11T312-HR	11.6	9.525	3.97	4.4	1.2	○	●																								
For roughing																																
LC	**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																									★	
For Al machining	**DCGX11T308-LC**	11.6	9.525	3.97	4.4	0.8																									★	
LH	**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																									★	●
For Al machining	**DCGX11T308-LH**	11.6	9.525	3.97	4.4	0.8																									★	
Without chipbreaker	**DCMW070204**	7.8	6.35	2.38	2.8	0.4																	○									
	DCMW11T304	11.6	9.525	3.97	4.4	0.4																		●					○			●
	DCMW11T308	11.6	9.525	3.97	4.4	0.8																		○					○		●	

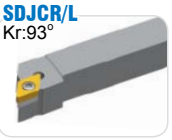
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Applicable tool

SDACR/L Kr:90°

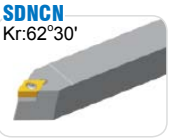
Page A185

SDJCR/L Kr:93°



A186

SDNCN Kr:62°30'



A187

SDQCR/L Kr:107°30'

A221

SDUCR/L Kr:93°

A222

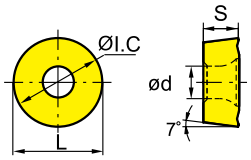
SDZCR/L Kr:95°

A223

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

RC□□ (Positive inserts)



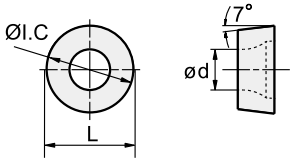
Good working condition Normal working condition Bad working condition

Workpiece material

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

Inserts shape	Type	Dimensions(mm)				Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	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



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 cermet	Cemented carbide				
		L	ØI.C	S	ød	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	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

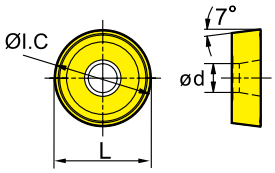
Applicable tool

SRDCN

SRGCR/L

Page A199 A200

RC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material

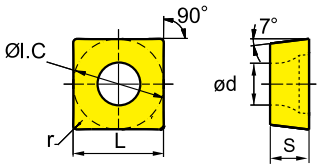
- P Steel
- M Stainless steel
- K Cast iron
- N Non-ferrous metal
- S Heat resistant alloy, Ti alloy

Inserts shape	Type	Dimensions(mm)				Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	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

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

SC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
HF	SCMT09T302-HF	9.525	9.525	3.97	4.4	0.2		○	○						○																	
	SCMT09T304-HF	9.525	9.525	3.97	4.4	0.4		●	●	○																						
	SCMT09T308-HF	9.525	9.525	3.97	4.4	0.8		●	○						○									●	○				●			○
For finishing																																
EF	SCMT09T302-EF	9.525	9.525	3.97	4.4	0.2							○		●	★			★													
	SCMT09T304-EF	9.525	9.525	3.97	4.4	0.4							○		●	★			★													
	SCMT09T308-EF	9.525	9.525	3.97	4.4	0.8							○		●	★			○													
For 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		●	●	○	○		●		○					●			●						○				
For semi-finishing	SCMT120412-HM	12.7	12.7	4.76	5.56	1.2		○	○											○										○		
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									●	★					★											
For semi-finishing	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


SSBCR/L
Kr:75°
Page A193

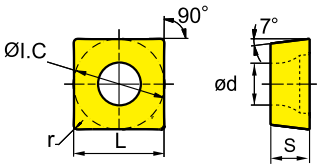

SSDCN
Kr:45°
A193


SSKCR/L
Kr:75°
A194


SSSCR/L
Kr:45°
A194


SSKCR/L
Kr:75°
A224

SC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	YBC352	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
LC	SCGX09T304-LC	9.525	9.525	3.97	4.4	0.4																									★	
	SCGX09T308-LC	9.525	9.525	3.97	4.4	0.8																									★	
For Al machining	SCGX120408-LC	12.7	12.7	4.76	5.5	0.8																									★	
LH	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																									★	
For Al machining	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	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		○	●		○																					
For roughing	SCMT120408-HR	12.7	12.7	4.76	5.56	0.8		★	●	○	●				○							○	●		●							
	SCMT120412-HR	12.7	12.7	4.76	5.56	1.2		○	○		●											○	○									
All round	SCMT09T304	9.525	9.525	3.97	4.4	0.4	○		●																							
	SCMT120404	12.7	12.7	4.76	5.56	0.4			○		○																					
	SCMT120408	12.7	12.7	4.76	5.56	0.8	○		●																○							
Without chipbreaker	SCMW060204	6.35	6.35	2.38	2.8	0.4																		○								
	SCMW09T304	9.525	9.525	3.97	4.4	0.4																		○			○					
	SCMW09T308	9.525	9.525	3.97	4.4	0.8	○																	●								
	SCMW120408	12.7	12.7	4.76	5.56	0.8	●																	●								

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

Applicable tool


SSBCR/L Kr:75° — Page A193


SSDCN Kr:45° — A193


SSKCR/L Kr:75° — A194

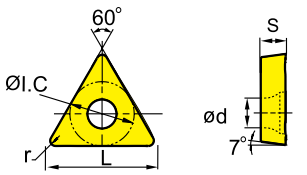

SSSCR/L Kr:45° — A194


SSKCR/L Kr:75° — A224

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

TC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
USF For extra finishing	TCGT110301R-USF	11	6.35	3.18	2.8	0.1									●	○																	
	TCGT110302R-USF	11	6.35	3.18	2.8	0.2									●	○																	
USF For extra finishing	TCGT110301L-USF	11	6.35	3.18	2.8	0.1									●	○																	
	TCGT110302L-USF	11	6.35	3.18	2.8	0.2									●	○																	
SF For extra finishing	TCGT06T102-SF	6.4	3.97	1.98	2.2	0.2							○																				
	TCGT06T104-SF	6.4	3.97	1.98	2.2	0.4							○															○					
	TCGT090202-SF	9.6	5.56	2.38	2.5	0.2							○																				
	TCGT090204-SF	9.6	5.56	2.38	2.5	0.4							○															○					
	TCGT090208-SF	9.6	5.56	2.38	2.5	0.8							○																				
	TCGT110302-SF	11	6.35	3.18	2.8	0.2							○														○						
	TCGT110304-SF	11	6.35	3.18	2.8	0.4							○														○	○					
	TCGT110308-SF	11	6.35	3.18	2.8	0.8							○																				

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

Applicable tool


STACR/L
Kr:90°
Page A195

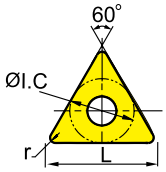

STFCR/L
Kr:91°
A195


STGCR/L
Kr:91°
A196


STTCR/L
Kr:60°
A197

STFCR/L
Kr:91°
A225

TC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
HF  For finishing	**TCMT06T104-HF**	6.4	3.97	1.98	2.2	0.4		○																								
	TCMT06T108-HF	6.4	3.97	1.98	2.2	0.8		○																								
	TCMT090202-HF	9.6	5.56	2.38	2.5	0.2		★	●											○						○						○
	TCMT090204-HF	9.6	5.56	2.38	2.5	0.4		★	●																	●		○				
	TCMT090208-HF	9.6	5.56	2.38	2.5	0.8			○																○							
	TCMT110202-HF	11	6.35	2.38	2.8	0.2			●						●					○												
	TCMT110204-HF	11	6.35	2.38	2.8	0.4	●	★	●	★										●					●		○						
	TCMT110208-HF	11	6.35	2.38	2.8	0.8		○	●	○					●					○			○									○
	TCMT16T302-HF	16.5	9.525	3.97	4.4	0.2		○																								
	TCMT16T304-HF	16.5	9.525	3.97	4.4	0.4		●	●						○										●	●						
	TCMT16T308-HF	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


STACR/L Kr:90°
Page A195


STFCR/L Kr:91°
A195


STGCR/L Kr:91°
A196

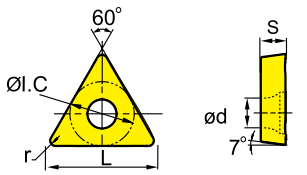

STTCR/L Kr:60°
A197


STFCR/L Kr:91°
A225

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

TC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
EF  For finishing	**TCMT090202-EF**	9.6	5.56	2.38	2.5	0.2							○		● ★				★														
	TCMT090204-EF	9.6	5.56	2.38	2.5	0.4							○		● ★				★														
	TCMT110202-EF	11	6.35	2.38	2.8	0.2							○		● ★				★														
	TCMT110204-EF	11	6.35	2.38	2.8	0.4							○		● ★				★														
	TCMT110208-EF	11	6.35	2.38	2.8	0.8							○		● ★				○														
	TCMT16T304-EF	16.5	9.525	3.97	4.4	0.4							○		● ★				★														
	TCMT16T308-EF	16.5	9.525	3.97	4.4	0.8							○		● ★				○														
EM  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									● ★						★												

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

Applicable tool


STACR/L Kr:90°
Page A195

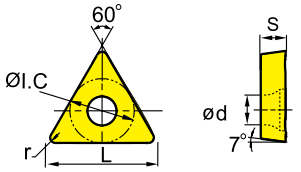

STFCR/L Kr:91°
A195


STGCR/L Kr:91°
A196


STTCR/L Kr:60°
A197


STFCR/L Kr:91°
A225

TC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
HM	**TCMT090204-HM**	9.6	5.56	2.38	2.5	0.4	★	●		○										○					●							
	TCMT090208-HM	9.6	5.56	2.38	2.5	0.8	○	●		○																						
	TCMT110204-HM	11	6.35	2.38	2.8	0.4	★	●	○	○				●						●			●		●		○					
	TCMT110208-HM	11	6.35	2.38	2.8	0.8	★	●		○															●							
	TCMT16T304-HM	16.5	9.525	3.97	4.4	0.4	★	●	★	●										●			○		●							
	TCMT16T308-HM	16.5	9.525	3.97	4.4	0.8	★	●	★	●										●			●		●						○	
	TCMT16T312-HM	16.5	9.525	3.97	4.4	1.2		●		●										○												
HR	**TCMT090204-HR**	9.6	5.56	2.38	2.5	0.4		○																								
	TCMT090208-HR	9.6	5.56	2.38	2.5	0.8																			○							●
	TCMT110204-HR	11	6.35	2.38	2.8	0.4		○																								
	TCMT110208-HR	11	6.35	2.38	2.8	0.8		○																								
	TCMT16T304-HR	16.5	9.525	3.97	4.4	0.4	○	●																								
	TCMT16T308-HR	16.5	9.525	3.97	4.4	0.8	●	●			●												●		●							
	TCMT16T312-HR	16.5	9.525	3.97	4.4	1.2	○	●															●		●							○
	TCMT220408-HR	22	12.7	4.76	5.5	0.8	○	●		○										●												
LC	**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 semi-finishing

For roughing

For Al machining

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

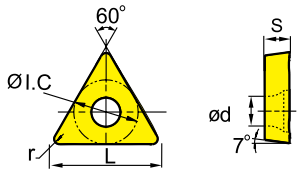
Applicable tool

STACR/L Kr:90°	STFCR/L Kr:91°	STGCR/L Kr:91°	STTCR/L Kr:60°	STFCR/L Kr:91°
Page A195	A195	A196	A197	A225

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

Cemented carbide and cermet inserts

TC□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
LH  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																									★	
All round 	**TCMT220408**	22	12.7	4.76	5.5	0.8	○		●														○						○			○
Without chipbreaker 	**TCMW110204**	11	6.35	2.38	2.8	0.4																		○					○		●	○
	TCMW16T304	16.5	9.525	3.97	4.4	0.4																							○				
	TCMW16T308	16.5	9.525	3.97	4.4	0.8																		○								
	TCMW16T312	16.5	9.525	3.97	4.4	1.2	○																	○								
	TCMW220408	22	12.7	4.76	5.5	0.8	○																	○	○							

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

Applicable tool


STACR/L
Kr:90°
Page A195

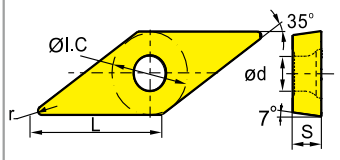

STFCR/L
Kr:91°
A195


STGCR/L
Kr:91°
A196


STTCR/L
Kr:60°
A197

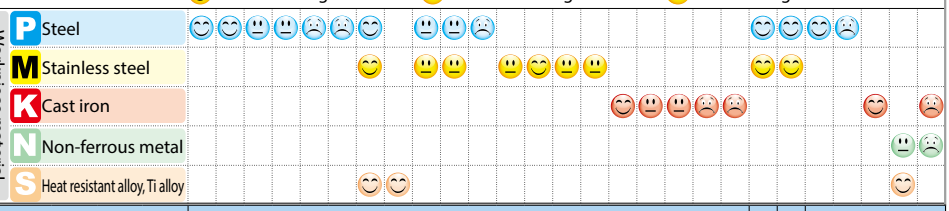

STFCR/L
Kr:91°
A225

VC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
USF For extra finishing	**VCGT080201R-USF**	8	4.76	2.38	2.3	0.1									○	○																	
	VCGT080202R-USF	8	4.76	2.38	2.3	0.2									●	○																	
	VCGT110301R-USF	11	6.35	3.18	2.8	0.1									●	○																	
	VCGT110302R-USF	11	6.35	3.18	2.8	0.2									●	○																	
USF For extra finishing	**VCGT080201L-USF**	8	4.76	2.38	2.3	0.1									○	○																	
	VCGT080202L-USF	8	4.76	2.38	2.3	0.2									○	○																	
	VCGT110301L-USF	11	6.35	3.18	2.8	0.1									○	○																	
	VCGT110302L-USF	11	6.35	3.18	2.8	0.2									●	○																	
SF For extra finishing	**VCGT110302-SF**	11	6.35	3.18	2.8	0.2							○														○	★					
	VCGT110304-SF	11	6.35	3.18	2.8	0.4							○														○	★					
HF For finishing	**VCGT110304-HF**	11	6.35	3.18	2.8	0.4			●																								
NF For finishing	**VCGT160408-NF**	16.5	9.525	4.76	4.4	0.8							●		★																		

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

Applicable tool

SVQCR/L Kr:107°30'

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SVUCR/L Kr:93°

A227

SVVCN Kr:72°30'

A191

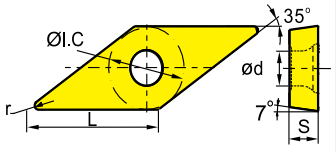
SVJCR/L Kr:93°

A192

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
LC	VCGX110301-LC	11	6.35	3.18	2.8	0.1																								★	
	VCGX110302-LC	11	6.35	3.18	2.8	0.2																								★	
	VCGX110304-LC	11	6.35	3.18	2.8	0.4																								★	
	VCGX110308-LC	11	6.35	3.18	2.8	0.8																								★	
	VCGX160404-LC	16.6	9.525	4.76	4.4	0.4																								★	
For Al machining	VCGX160408-LC	16.6	9.525	4.76	4.4	0.8																								★	
	VCGX160412-LC	16.6	9.525	4.76	4.4	1.2																								★	
	VCGX220530-LC	22	12.7	5.56	5.5	3.0																								★	
LH	VCGX110202-LH	11	6.35	2.38	2.8	0.2																								○	
	VCGX110204-LH	11	6.35	2.38	2.8	0.4																								★	
	VCGX110301-LH	11	6.35	3.18	2.8	0.1																								★	●
	VCGX110302-LH	11	6.35	3.18	2.8	0.2																								★	●
	VCGX110304-LH	11	6.35	3.18	2.8	0.4																								★	●
	VCGX110308-LH	11	6.35	3.18	2.8	0.8																								○	
For Al machining	VCGX160402-LH	16.6	9.525	4.76	4.4	0.2																								★	
	VCGX160404-LH	16.6	9.525	4.76	4.4	0.4																								★	○
	VCGX160408-LH	16.6	9.525	4.76	4.4	0.8																								★	○
	VCGX160412-LH	16.6	9.525	4.76	4.4	1.2																								★	●
	VCGX220530-LH	22	12.7	5.56	5.5	3.0																								★	●

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

Applicable tool

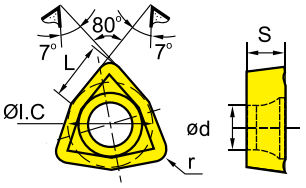

SVQCR/L
Kr:107°30'
Page A226


SVUCR/L
Kr:93°
A227


SVVCN
Kr:72°30'
A191


SVJCR/L
Kr:93°
A192

WC□□ (Positive inserts)



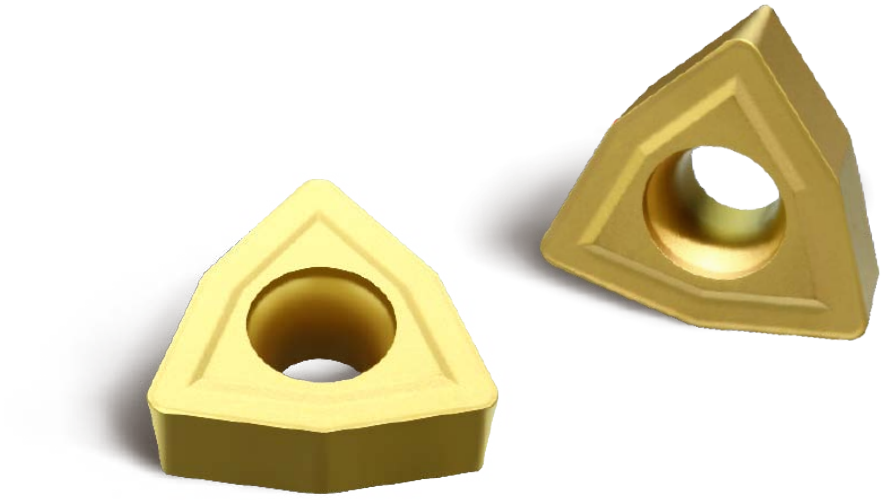
Good working condition Normal working condition Bad working condition

Workpiece material

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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
53 	**WCMX040208R-53**	4.3	6.35	2.38	3.1	0.8			●														○									○
	WCMX06T308R-53	6.5	9.525	3.97	3.7	0.8	●		○														○									○
	WCMX080412R-53	8.7	12.7	4.76	4.3	1.2																						○				

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



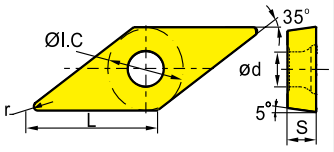
Applicable tool

SWACR/L
Kr:90°

Page A198

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

VB□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	Ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
SF	VBGT110302-SF	11	6.35	3.18	2.8	0.2							○														○	○					
	VBGT110304-SF	11	6.35	3.18	2.8	0.4							○														○	○					
For extra finishing																																	
EF	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							○		●	★			★														
For finishing	VBMT160408-EF	16.5	9.525	4.76	4.4	0.8							○		●	★			○														
HF	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			●						○																		
For finishing																																	
NF	VBET160404-NF	16.5	9.525	4.76	4.4	0.4							●	★																			
	VBET160408-NF	16.5	9.525	4.76	4.4	0.8							●	★																			
For finishing																																	

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

Applicable tool

SVJBR/L Kr:93°

Page A188

SVABR/L Kr:90°

A189

SVVBN Kr:72°30'

A190

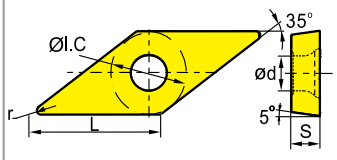
SVQBR/L Kr:107°30'

A228

SVUBR/L Kr:93°

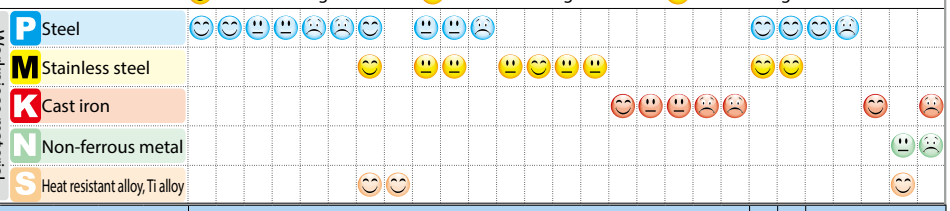
A229

VB□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet		Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
EM	**VBMT110304-EM**	11	6.35	3.18	2.8	0.4									●	★					★												
	**VBMT110308-EM**	11	6.35	3.18	2.8	0.8									●	★					★												
For semi-finishing																																	
HM	**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 semi-finishing																																	
HR	**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					○																						
For roughing	**VBGT160408-HR**	16.5	9.525	4.76	4.4	0.8			○																								

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

Applicable tool

SVJBR/L Kr:93°

Page A188

SVABR/L Kr:90°

A189

SVVBN Kr:72°30'

A190

SVQBR/L Kr:107°30'

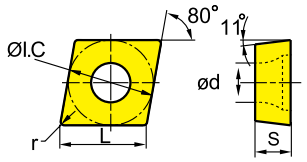
A228

SVUBR/L Kr:93°

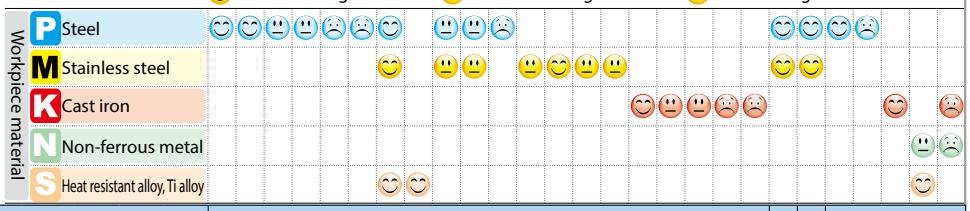
A229

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

CP□□ (Positive inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	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
Kr:95°

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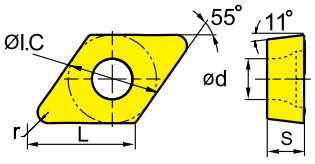
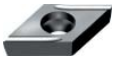
DP□□ (Positive inserts)



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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide														Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
USF	DPGT0702005R-USF	7.8	6.35	2.38	2.8	0.05									○	○																	
	DPGT070201R-USF	7.8	6.35	2.38	2.8	0.1									○	○																	
For extra finishing	DPGT11T301R-USF	11.6	9.525	3.97	4.4	0.1									●	○																	
USF	DPGT0702005L-USF	7.8	6.35	2.38	2.8	0.05									○	○																	
	DPGT070201L-USF	7.8	6.35	2.38	2.8	0.1									○	○																	
For extra finishing	DPGT11T301L-USF	11.6	9.525	3.97	4.4	0.1									○	○																	
SF	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							○																				
For extra finishing	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 Kr:107°30'

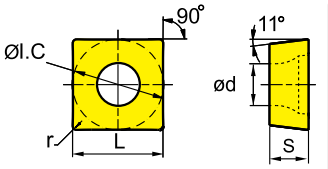
Page A231

SDUPR/L Kr:93°

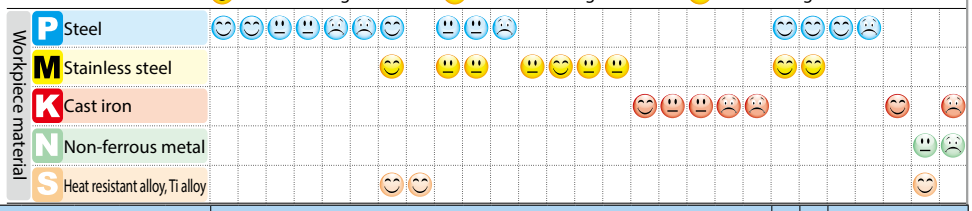
A232

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

SP□□ (Positive inserts)



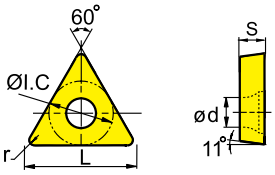
Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
Without chipbreaker 	**SPMW09T304**	9.525	9.525	3.97	4.4	0.4			○																						○	
	SPMW09T308	9.525	9.525	3.97	4.4	0.8	●																							●		
	SPMW120408	12.7	12.7	4.76	5.56	0.8																	●									○

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

TP□□ (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

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
SF	TPGT090202-SF	9.6	5.56	2.38	2.5	0.2							○															○					
	TPGT090204-SF	9.6	5.56	2.38	2.5	0.4							○														○	★					
	TPGT090208-SF	9.6	5.56	2.38	2.5	0.8							○														○						
	TPGT110302-SF	11	6.35	3.18	2.8	0.2							○														○						
For extra finishing	TPGT110304-SF	11	6.35	3.18	2.8	0.4							○														○	○					
	TPGT110308-SF	11	6.35	3.18	2.8	0.8							○															○					
	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							○														●						
For extra finishing	TPGH110304L	11	6.35	3.18	3.18	0.4							●														●		○				

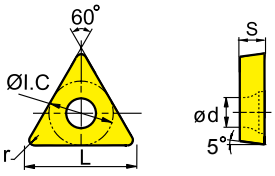
★Recommended grade (always stock available)　●Available grade (always stock available)　○Make-to-order

Applicable tool

STUPR/L
Kr:93°

Page A233

TB□□ (Positive inserts)



Good working condition　Normal working condition　Bad working condition

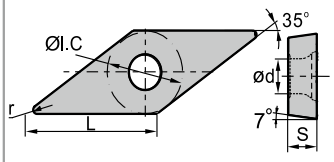
Workpiece material
- P Steel
- M Stainless steel
- K Cast iron
- N Non-ferrous metal
- S Heat resistant alloy, Ti alloy

Inserts shape	Type	Dimensions(mm)					Coated cemented carbide																Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
	TBGH060102L	6.4	3.97	1.59	2.2	0.2							★														★						
For extra finishing	TBGH060104L	6.4	3.97	1.59	2.2	0.4							★																				

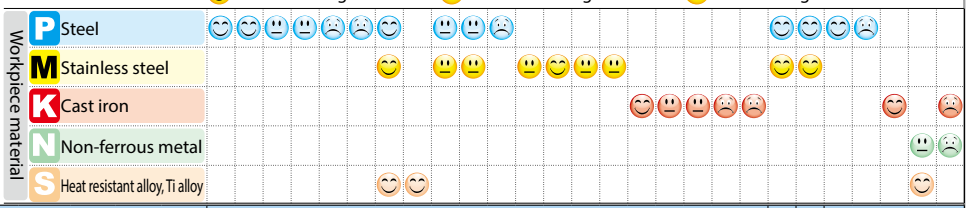
★Recommended grade (always stock available)　●Available grade (always stock available)　○Make-to-order

Insert code key A48–A49
Grade selection reference A19/A34–A46
Chipbreaker selection reference A22–A33
Recommended cutting parameters A243–A245

VP□□ (Positive inserts)



Good working condition Normal working condition Bad working condition



Inserts shape	Type	Dimensions(mm)					Coated cemented carbide															Cermet	Coated cermet	Cemented carbide				
		L	ØI.C	S	ød	r	YBC151	YBC152	YBC251	YBC252	YBC351	**YBC352**	YBG102	YBG105	YBG202	YBG205	YBG302	YBM151	YBM153	YBM251	YBM253	YBD052	YBD102	YBD151	YBD152	YBD252	YNG151	YNG151C	YC10	YC40	YD051	YD101	YD201
USF  For extra finishing	**VPGT080201R-USF**	8	4.76	2.38	2.3	0.1									○	○																	
	VPGT080202R-USF	8	4.76	2.38	2.3	0.2									○	○																	
	VPGT110301R-USF	11	6.35	3.18	2.8	0.1									●	○																	
USF  For extra finishing	**VPGT080201L-USF**	8	4.76	2.43	2.3	0.1									●	○																	
	VPGT080202L-USF	8	4.76	2.43	2.3	0.2									●	○																	
	VPGT110301L-USF	11	6.35	3.18	2.8	0.1									○	○																	

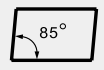
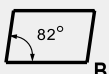
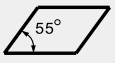
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

New product for turning

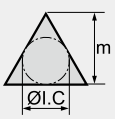
PCBN&PCD inserts

PCBN&PCD inserts code key

Insert shape

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

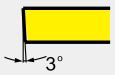
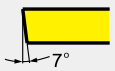
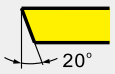
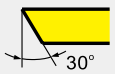
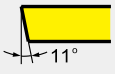
Tolerance class



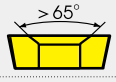
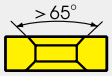
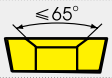
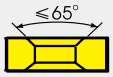
Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)	Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)
A	±0.005	±0.025	±0.025	J	±0.005	±0.05-±0.13	±0.025
F	±0.005	±0.013	±0.025	K	±0.013	±0.05-±0.13	±0.025
C	±0.013	±0.025	±0.025	L	±0.025	±0.05-±0.13	±0.025
H	±0.013	±0.013	±0.025	M	±0.08-±0.18	±0.05-±0.13	±0.13
E	±0.025	±0.025	±0.025	N	±0.08-±0.18	±0.05-±0.13	±0.025
G	±0.025	±0.025	±0.13	U	±0.13-±0.38	±0.08-±0.25	±0.13

C N G A

Clearance angle of main cutting edge

Code	Clearance angle	Code	Clearance angle
A		B	
C		D	
E		F	
G		N	
P		O	Other clearance angle

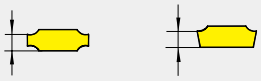
Chipbreaker and clamping system

Code	With/Without hole	Section plane of insert
N	Without	
B	With	
C	With	
A	With	
W	With	
Q	With	
X	---	Special

Length of cutting edge

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

Insert thickness



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

Code	Insert thickness(mm)	Code	Insert thickness(mm)
02	2.38	06	6.35
T2	2.58	T6	6.75
03	3.18	07	7.94
T3	3.97	09	9.52
04	4.76	T9	9.72
T4	4.96	11	11.11
05	5.56	12	12.70
T5	5.95		

Nose radius code

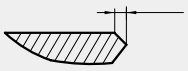
Code	Nose radius(mm)
00	No radius
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Others
Diameter of insert (Metric)	Round insert

12 04 08 T 020 20 - 2

Type of cutting edge

Code	Type of cutting edge	Diagram
F	Sharp edges	
E	Honing	
T	Chamfering	
S	Chamfering +honing	

Chamfer width



010	0.10	040	0.40
015	0.15	045	0.45
020	0.20	050	0.50
025	0.25	100	1.00
030	0.30	200	2.00
035	0.35		

Chamfer angle

05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

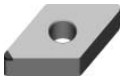
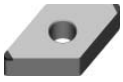
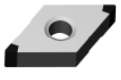
Number of cutting nose

Code	Number	Diagram
Unspeci-fied	Single edge	
2	Double edges	
3	Three edges	
4	Four edges	

CNGA120408 ISO standard code

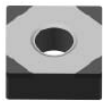
	Grade						
	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Type of cutting edge	T	S	T	S	S	T	T
Chamfer angle	15°	20°	20°	25°	20°	20°	20°
Chamfer width	0.15	0.10	0.20	0.15	0.10	0.20	0.25

PCBN&PCD inserts overview Negative inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
 A120	CNGA120404	○	○	○	○							
	CNGA120408	○	○	○	○							
	CNGA120412	○	○	○	○							
 A120	CNGA120404-2	★	★	★	★							
	CNGA120408-2	★	★	★	★							
	CNGA120412-2	○	○	○	○							
 A120	CNGA120404-2					○	○	○				
	CNGA120408-2					○	○	○				
	CNGA120412-2					○	○	○				
 A121	CNGN120404					○	★	○				
	CNGN12T608					○	★	○				
	CNGN120712					○	★	○				
 A122	DNGA150404	○	○	○	○							
	DNGA150408	○	○	○	○							
	DNGA150412	○	○	○	○							
	DNGA150602	○	○	○	○							
	DNGA150604	○	○	○	○							
	DNGA150608	○	○	○	○							
	DNGA150612	○	○	○	○							
 A122	DNGA150404-2	★	★	★	★							
	DNGA150408-2	★	★	★	★							
	DNGA150412-2	○	○	○	○							
	DNGA150602-2	○	○	○	○							
	DNGA150604-2	○	○	○	○							
	DNGA150608-2	○	○	○	○							
	DNGA150612-2	○	○	○	○							
 A122	DNGA150404-2					○	○	○				
	DNGA150408-2					○	○	○				
	DNGA150412-2					○	○	○				
	DNGA150604-2					○	○	○				
	DNGA150608-2					○	○	○				
	DNGA150612-2					○	○	○				

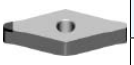
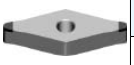
★ Recommended grade

PCBN&PCD inserts overview Negative inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
 A123	DNGN110404					○	★	○				
	DNGN110408					○	★	○				
 A124	SNGA120402	○	○	○	○							
	SNGA120404	○	○	○	○							
	SNGA120408	○	○	○	○							
	SNGA120412	○	○	○	○							
 A124	SNGA120402-2	○	○	○	○							
	SNGA120404-2	★	★	★	★							
	SNGA120408-2	★	★	★	★							
	SNGA120412-2	○	○	○	○							
 A124	SNGA120402-4	○	○	○	○							
	SNGA120404-4	○	○	○	○							
	SNGA120408-4	○	○	○	○							
	SNGA120412-4	○	○	○	○							
 A124	SNGA120404-4					○	○	○				
	SNGA120408-4					○	○	○				
	SNGA120412-4					○	○	○				
 A125	SNGN120404					○	★	○				
	SNGN120408					○	★	○				
	SNGN12T612					○	★	○				
	SNGN150716					○	★	○				
	SNGN150720					○	★	○				
 A126	TNGA160402	○	○	○	○							
	TNGA160404	○	○	○	○							
	TNGA160408	○	○	○	○							
	TNGA160412	○	○	○	○							
 A126	TNGA160402-3	○	○	○	○							
	TNGA160404-3	★	★	★	★							
	TNGA160408-3	★	★	★	★							
	TNGA160412-3	○	○	○	○							

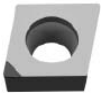
★ Recommended grade

PCBN&PCD inserts overview Negative inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
 A126	TNGA160404-3					○	○	○				
	TNGA160408-3					○	○	○				
	TNGA160412-3					○	○	○				
 A127	VNGA160402	○	○	○	○							
	VNGA160404	○	○	○	○							
	VNGA160408	○	○	○	○							
	VNGA160412	○	○	○	○							
 A127	VNGA160402-2	○	○	○	○							
	VNGA160404-2	★	★	★	★							
	VNGA160408-2	★	★	★	★							
	VNGA160412-2	○	○	○	○							
 A128	WNGA080404	○	○	○	○							
	WNGA080408	○	○	○	○							
	WNGA080412	○	○	○	○							
 A128	WNGA080404-3	★	★	★	★							
	WNGA080408-3	★	★	★	★							
	WNGA080412-3	○	○	○	○							
 A128	WNGA080404-3					○	○	○				
	WNGA080408-3					○	○	○				
	WNGA080412-3					○	○	○				
 A129	WNGN060304					○	★	○				
	WNGN080408					○	★	○				
	WNGN080412					○	★	○				
 A129	RNGN090300					○	★	○				
	RNGN120400					○	★	○				
	RNGN120700					○	★	○				
	RNGN150700					○	★	○				

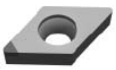
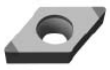
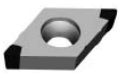
★ Recommended grade

PCBN&PCD inserts overview Positive inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
 A130	CCGW060204	○	○	○	○				★	○	★	○
	CCGW060208	○	○	○	○				★	○	★	○
	CCGW09T304	○	○	○	○				★	○	★	○
	CCGW09T308	○	○	○	○				★	○	★	○
	CCGW120404	○	○	○	○							
	CCGW120408	○	○	○	○				★	○	★	○
	CCGW120412	○	○	○	○							
 A130	CCGW060204-2	○	○	○	○							
	CCGW060208-2	○	○	○	○							
	CCGW09T304-2	★	★	★	★							
	CCGW09T308-2	★	★	★	★							
	CCGW120404-2	★	★	★	★							
	CCGW120408-2	★	★	★	★							
	CCGW120412-2	○	○	○	○							
 A131	CCGN120404					★	★	★				
	CCGN12T608					★	★	★				
	CCGN120712					★	★	★				
 A130	CCGW09T304-2					○	○	○				
	CCGW09T308-2					○	○	○				
	CCGW09T312-2					○	○	○				
	CCGW120404-2					○	○	○				
	CCGW120408-2					○	○	○				
	CCGW120412-2					○	○	○				
 A131	CCMX060202								★	○	★	○
	CCMX060204								★	○	★	○
	CCMX060208								★	○	★	○
	CCMX09T304								★	○	★	○
	CCMX09T308								★	○	★	○
	CCMX120408								★	○	★	○

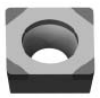
★ Recommended grade

PCBN&PCD inserts overview Positive inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
 A132	DCGW070202	○	○	○	○				★	○	★	○
	DCGW070204	○	○	○	○				★	○	★	○
	DCGW070208	○	○	○	○							
	DCGW11T304	○	○	○	○				★	○	★	○
	DCGW11T308	○	○	○	○				★	○	★	○
 A132	DCGW070202-2	○	○	○	○							
	DCGW070204-2	○	○	○	○							
	DCGW070208-2	○	○	○	○							
	DCGW11T304-2	★	★	★	★							
	DCGW11T308-2	★	★	★	★							
 A133	DCGN110404					★	★	★				
	DCGN110408					★	★	★				
 A132	DCGW11T304-2					○	○	○				
	DCGW11T308-2					○	○	○				
	DCGW11T312-2					○	○	○				
	DCGW11T304-2					○	○	○				
	DCGW11T308-2					○	○	○				
 A132	DCMX070202								★	○	★	○
	DCMX070204								★	○	★	○
	DCMX11T304								★	○	★	○
	DCMX11T308								★	○	★	○
 A134	SCGW120404	○	○	○	○				★	○	★	○
	SCGW120408	○	○	○	○				★	○	★	○
	SCGW120412	○	○	○	○				★	○	★	○
 A134	SCGW120404-2	★	★	★	★							
	SCGW120408-2	★	★	★	★							
	SCGW120412-2	○	○	○	○							

★ Recommended grade

PCBN&PCD inserts overview Positive inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
 A134	SCGW120404-4	○	○	○	○							
	SCGW120408-4	○	○	○	○							
	SCGW120412-4	○	○	○	○							
 A134	SCGW120404-4					○	○	○				
	SCGW120408-4					○	○	○				
	SCGW120412-4					○	○	○				
 A134	SCMX120404								★	○	★	○
	SCMX120408								★	○	★	○
	SCMX120412								★	○	★	○
 A135	TCGW090204	○	○	○	○				★	○	★	○
	TCGW090208	○	○	○	○				★	○	★	○
	TCGW110202	○	○	○	○				★	○	★	○
	TCGW110204	○	○	○	○				★	○	★	○
	TCGW110208	○	○	○	○				★	○	★	○
	TCGW110304	○	○	○	○				★	○	★	○
	TCGW16T304	○	○	○	○				★	○	★	○
	TCGW16T308	○	○	○	○				★	○	★	○
	TCGW16T312	○	○	○	○				★	○	★	○
 A135	TCGW090204-3	○	○	○	○							
	TCGW090208-3	○	○	○	○							
	TCGW110202-3	○	○	○	○							
	TCGW110204-3	★	★	★	★							
	TCGW110208-3	★	★	★	★							
	TCGW110304-3	★	★	★	★							
	TCGW16T304-3	★	★	★	★							
	TCGW16T308-3	★	★	★	★							
	TCGW16T312-3	○	○	○	○							

★ Recommended grade

PCBN&PCD inserts overview Positive inserts

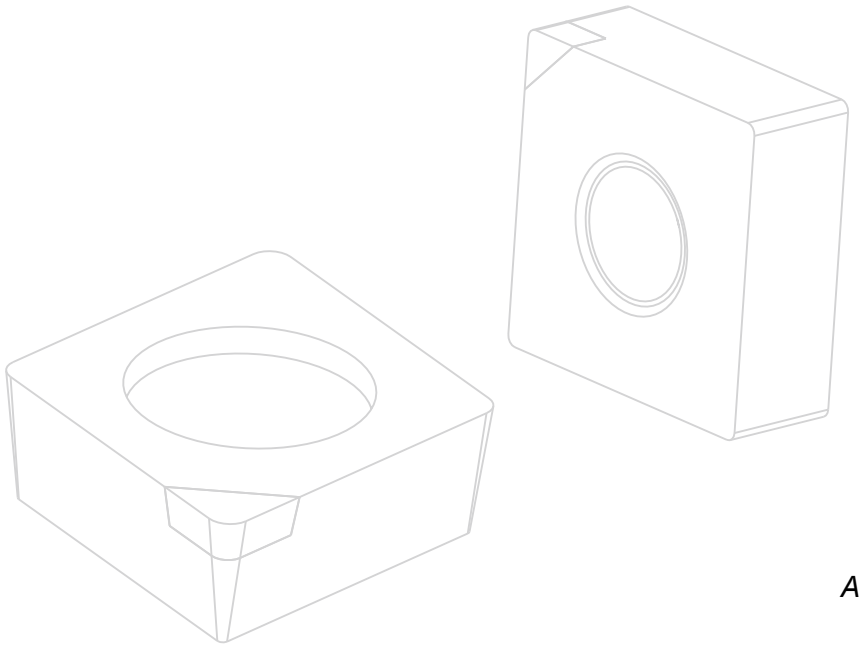
Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	TCGW090204-3					○	○	○				
	TCGW090208-3					○	○	○				
	TCGW090212-3					○	○	○				
	TCGW110304-3					○	○	○				
	TCGW110308-3					○	○	○				
	TCGW110312-3					○	○	○				
	TCGW16T304-3					○	○	○				
	TCGW16T308-3					○	○	○				
A135	TCGW16T312-3					○	○	○				
	TCMX090204								★	○	★	○
	TCMX090208								★	○	★	○
	TCMX110202								★	○	★	○
	TCMX110204								★	○	★	○
	TCMX110208								★	○	★	○
	TCMX110304								★	○	★	○
	TCMX16T304								★	○	★	○
	TCMX16T308								★	○	★	○
A136	TCMX16T312								★	○	★	○

★ Recommended grade

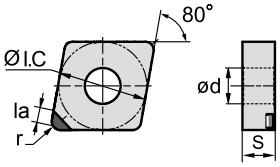
PCBN&PCD inserts overview Positive inserts

Inserts shape	Type	Grade									
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	VBGW160404	○	○	○	○				★	○	★	○
	VBGW160408	○	○	○	○				★	○	★	○
A137	VBGW160412	○	○	○	○				★	○	★	○
	VBGW160404-2	★	★	★	★							
	VBGW160408-2	★	★	★	★							
A137	VBGW160412-2	○	○	○	○							
	VBMX160404								★	○	★	○
	VBMX160408								★	○	★	○
A137	VBMX160412								★	○	★	○
	VCGW160404								★	○	★	○
	VCGW160408								★	○	★	○
A138	VCGW160412								★	○	★	○
	VCMX160404								★	○	★	○
	VCMX160408								★	○	★	○
A138	VCMX160412								★	○	★	○
	RCGN090300					★	★	★				
	RCGN120400					★	★	★				
	RCGN120700					★	★	★				
A138	RCGN150700					★	★	★				

★ Recommended grade



CN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H Super hard material		😐	😊		😐						
K Cast iron	😊			😊		😐	☹				
N Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade										
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	CNGA120404	12.7	4.76	5.16	0.4	2.5	○	○	○	○							
	CNGA120408	12.7	4.76	5.16	0.8	2.4	○	○	○	○							
	CNGA120412	12.7	4.76	5.16	1.2	2.3	○	○	○	○							
	CNGA120404-2	12.7	4.76	5.16	0.4	2.5	★	★	★	★							
	CNGA120408-2	12.7	4.76	5.16	0.8	2.4	★	★	★	★							
	CNGA120412-2	12.7	4.76	5.16	1.2	2.3	○	○	○	○							
	CNGA120404-2	12.7	4.76	5.16	0.4	2.5					○	○	○				
	CNGA120408-2	12.7	4.76	5.16	0.8	2.4					○	○	○				
	CNGA120412-2	12.7	4.76	5.16	1.2	2.3					○	○	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool


DCLNR/L Kr:95°
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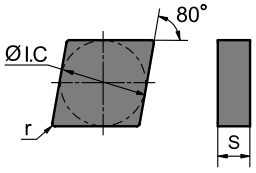
PCLNR/L Kr:95°
A171


MCLNR/L Kr:95°
A172


PCLNR/L Kr:95°
A214

CN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

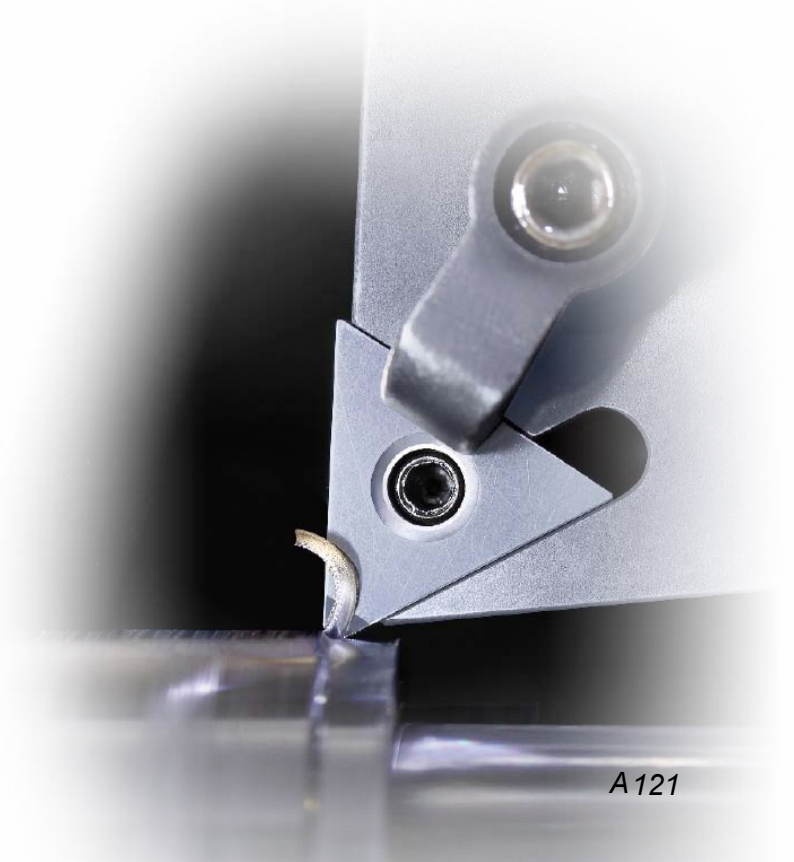
Workpiece material		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material	😐	😊		😐							
K	Cast iron	😊			😊		😐	☹				
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)			Grade										
		ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**CNGN120404**	12.7	4.76	0.4					○	★	○				
	CNGN12T608	12.7	6.75	0.8					○	★	○				
	CNGN120712	12.7	7.94	1.2					○	★	○				

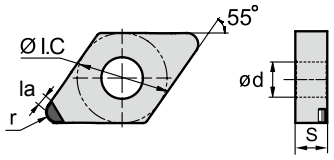
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

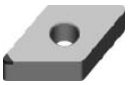
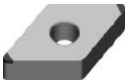
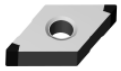


DN□□ (Negative inserts)



Good working condition | Normal working condition | Bad working condition

Workpiece material											
H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal							😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade										
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**DNGA150404**	12.7	4.76	5.16	0.4	2.5	○	○	○	○							
	DNGA150408	12.7	4.76	5.16	0.8	2.1	○	○	○	○							
	DNGA150412	12.7	4.76	5.16	1.2	2.0	○	○	○	○							
	DNGA150602	12.7	6.35	5.16	0.2	2.7	○	○	○	○							
	DNGA150604	12.7	6.35	5.16	0.4	2.5	○	○	○	○							
	DNGA150608	12.7	6.35	5.16	0.8	2.1	○	○	○	○							
	DNGA150612	12.7	6.35	5.16	1.2	2.0	○	○	○	○							
	**DNGA150404-2**	12.7	4.76	5.16	0.4	2.5	★	★	★	★							
	DNGA150408-2	12.7	4.76	5.16	0.8	2.1	★	★	★	★							
	DNGA150412-2	12.7	4.76	5.16	1.2	2.0	○	○	○	○							
	DNGA150602-2	12.7	6.35	5.16	0.2	2.7	○	○	○	○							
	DNGA150604-2	12.7	6.35	5.16	0.4	2.5	○	○	○	○							
	DNGA150608-2	12.7	6.35	5.16	0.8	2.1	○	○	○	○							
	DNGA150612-2	12.7	6.35	5.16	1.2	2.0	○	○	○	○							
	**DNGA150404-2**	12.7	4.76	5.16	0.4	2.5					○	○	○				
	DNGA150408-2	12.7	4.76	5.16	0.8	2.1					○	○	○				
	DNGA150412-2	12.7	4.76	5.16	1.2	2.0					○	○	○				
	DNGA150604-2	12.7	6.35	5.16	0.4	2.5					○	○	○				
	DNGA150608-2	12.7	6.35	5.16	0.8	2.1					○	○	○				
	DNGA150612-2	12.7	6.35	5.16	1.2	2.0					○	○	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool

DDJNR/L Kr:93°

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PDJNR/L Kr:93°

A173

PDNNR/L Kr:63°

A174

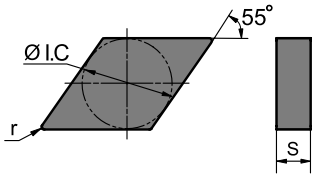
PDSNR/L Kr:62°30'

A215

PDUNR/L Kr:93°

A216

DN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material		😐	😊		😐						
K	Cast iron	😊			😊		😐	☹				
N	Non ferrous metal								😐	😊	😐	☹

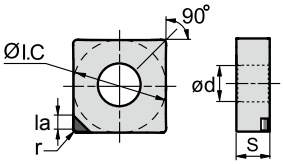
Inserts shape	Type	Dimensions(mm)			Grade										
		ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**DNGN110404**	9.525	4.76	0.4					○	★	○				
	DNGN110408	9.525	4.76	0.8					○	★	○				

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

Type of cutting edge

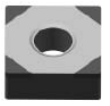
	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

SN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material		
H	Super hard material	😐 😊 😐
K	Cast iron	😊 😊 😐 ☹
N	Non ferrous metal	😐 😊 😐 ☹

Inserts shape	Type	Dimensions(mm)					Grade										
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	SNGA120402	12.7	4.76	5.16	0.2	2.7	○	○	○	○							
	SNGA120404	12.7	4.76	5.16	0.4	2.5	○	○	○	○							
	SNGA120408	12.7	4.76	5.16	0.8	2.3	○	○	○	○							
	SNGA120412	12.7	4.76	5.16	1.2	2.1	○	○	○	○							
	SNGA120402-2	12.7	4.76	5.16	0.2	2.7	○	○	○	○							
	SNGA120404-2	12.7	4.76	5.16	0.4	2.5	★	★	★	★							
	SNGA120408-2	12.7	4.76	5.16	0.8	2.3	★	★	★	★							
	SNGA120412-2	12.7	4.76	5.16	1.2	2.1	○	○	○	○							
	SNGA120402-4	12.7	4.76	5.16	0.2	2.7	○	○	○	○							
	SNGA120404-4	12.7	4.76	5.16	0.4	2.5	○	○	○	○							
	SNGA120408-4	12.7	4.76	5.16	0.8	2.3	○	○	○	○							
	SNGA120412-4	12.7	4.76	5.16	1.2	2.1	○	○	○	○							
	SNGA120404-4	12.7	4.76	5.16	0.4	2.5					○	○	○				
	SNGA120408-4	12.7	4.76	5.16	0.8	2.3					○	○	○				
	SNGA120412-4	12.7	4.76	5.16	1.2	2.1					○	○	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool


DSBNR/L Kr:75°
Page A166


PSBNR/L Kr:75°
A175

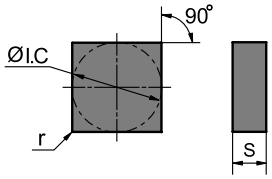

PSDNN Kr:45°
A176


PSKNR/L Kr:75°
A177


PSSNR/L Kr:45°
A178


PSKNR/L Kr:75°
A217

SN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H Super hard material		😐	😊		😐						
K Cast iron	😊			😊		😐	☹				
N Non ferrous metal								😐	😊	😐	☹

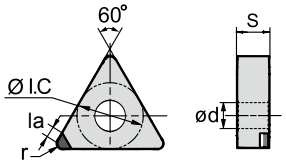
Inserts shape	Type	Dimensions(mm)			Grade										
		ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**SNGN120404**	12.7	4.76	0.4					○	★	○				
	SNGN120408	12.7	4.76	0.8					○	★	○				
	SNGN12T612	12.7	6.75	1.2					○	★	○				
	SNGN150716	15.875	7.94	1.6					○	★	○				
	SNGN150720	15.875	7.94	2.0					○	★	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

TN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material											
H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade										
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**TNGA160402**	9.525	4.76	3.81	0.2	2.5	○	○	○	○							
	TNGA160404	9.525	4.76	3.81	0.4	2.5	○	○	○	○							
	TNGA160408	9.525	4.76	3.81	0.8	2.2	○	○	○	○							
	TNGA160412	9.525	4.76	3.81	1.2	2.0	○	○	○	○							
	**TNGA160402-3**	9.525	4.76	3.81	0.2	2.5	○	○	○	○							
	TNGA160404-3	9.525	4.76	3.81	0.4	2.5	★	★	★	★							
	TNGA160408-3	9.525	4.76	3.81	0.8	2.2	★	★	★	★							
	TNGA160412-3	9.525	4.76	3.81	1.2	2.0	○	○	○	○							
	**TNGA160404-3**	9.525	4.76	3.81	0.4	2.5					○	○	○				
	TNGA160408-3	9.525	4.76	3.81	0.8	2.2					○	○	○				
	TNGA160412-3	9.525	4.76	3.81	1.2	2.0					○	○	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool


DTGNR/L Kr:91°
Page A167

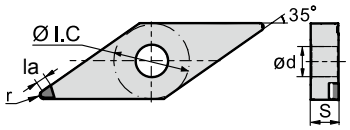

PTFNR/L Kr:91°
A179


PTTNR/L Kr:60°
A180


PTGNR/L Kr:90°
A181

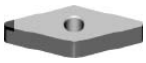
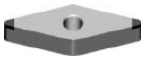

PTFNR/L Kr:90°
A218

VN□□ (Negative inserts)



Good working condition | Normal working condition | Bad working condition

Workpiece material											
H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**VNGA160402**	9.525	4.76	3.81	0.2	3.3	○	○	○	○							
	VNGA160404	9.525	4.76	3.81	0.4	2.8	○	○	○	○							
	VNGA160408	9.525	4.76	3.81	0.8	2.5	○	○	○	○							
	VNGA160412	9.525	4.76	3.81	1.2	2.0	○	○	○	○							
	**VNGA160402-2**	9.525	4.76	3.81	0.2	3.3	○	○	○	○							
	VNGA160404-2	9.525	4.76	3.81	0.4	2.8	★	★	★	★							
	VNGA160408-2	9.525	4.76	3.81	0.8	2.5	★	★	★	★							
	VNGA160412-2	9.525	4.76	3.81	1.2	2.0	○	○	○	○							

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool

DVVNN
Kr:72°30'

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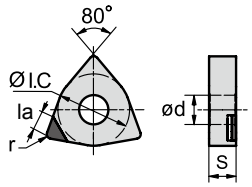
DVJNR/L
Kr:93°

A169

WN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material		
H	Super hard material	😐 😊 😐
K	Cast iron	😊 😊 😐 ☹
N	Non ferrous metal	😐 😊 😐 ☹

Inserts shape	Type	Dimensions(mm)					Grade										
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	WNGA080404	12.7	4.76	5.16	0.4	3.3	○	○	○	○							
	WNGA080408	12.7	4.76	5.16	0.8	2.8	○	○	○	○							
	WNGA080412	12.7	4.76	5.16	1.2	2.8	○	○	○	○							
	WNGA080404-3	12.7	4.76	5.16	0.4	3.3	★	★	★	★							
	WNGA080408-3	12.7	4.76	5.16	0.8	2.8	★	★	★	★							
	WNGA080412-3	12.7	4.76	5.16	1.2	2.8	○	○	○	○							
	WNGA080404-3	12.7	4.76	5.16	0.4	3.3					○	○	○				
	WNGA080408-3	12.7	4.76	5.16	0.8	2.8					○	○	○				
	WNGA080412-3	12.7	4.76	5.16	1.2	2.8					○	○	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool

DWLNR/L Kr:95°

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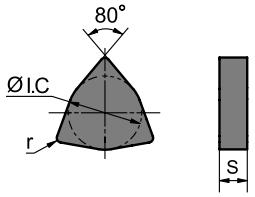
PWLNR/L Kr:95°

A182

PWLNR/L Kr:95°

A219

WN□□ (Negative inserts)



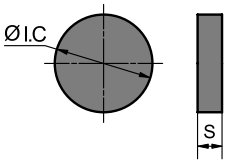
Good working condition Normal working condition Bad working condition

Workpiece material		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material		😐	😊		😐						
K	Cast iron	😊			😊		😐	☹				
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)			Grade										
		ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**WNGN060304**	9.525	3.18	0.4					○	★	○				
	WNGN080408	12.7	4.76	0.8					○	★	○				
	WNGN080412	12.7	4.76	1.2					○	★	○				

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

RN□□ (Negative inserts)



Good working condition Normal working condition Bad working condition

Workpiece material		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material		😐	😊		😐						
K	Cast iron	😊			😊		😐	☹				
N	Non ferrous metal								😐	😊	😐	☹

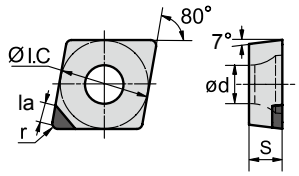
Inserts shape	Type	Dimensions(mm)		Grade										
		ØI.C	S	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**RNGN090300**	9.525	3.18					○	★	○				
	RNGN120400	12.7	4.76					○	★	○				
	RNGN120700	12.7	7.94					○	★	○				
	RNGN150700	15.875	7.94					○	★	○				

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

Type of cutting edge

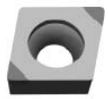
	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

CC□□ (Positive inserts)



Good working condition | Normal working condition | Bad working condition

Workpiece material	
H	Super hard material
K	Cast iron
N	Non ferrous metal

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	CCGW060204	6.35	2.38	2.8	0.4	2.5	○	○	○	○				★	○	★	○
	CCGW060208	6.35	2.38	2.8	0.8	2.4	○	○	○	○				★	○	★	○
	CCGW09T304	9.525	3.97	4.4	0.4	2.5	○	○	○	○				★	○	★	○
	CCGW09T308	9.525	3.97	4.4	0.8	2.4	○	○	○	○				★	○	★	○
	CCGW120404	12.7	4.76	5.5	0.4	2.5	○	○	○	○							
	CCGW120408	12.7	4.76	5.5	0.8	2.4	○	○	○	○				★	○	★	○
	CCGW120412	12.7	4.76	5.5	1.2	2.3	○	○	○	○							
	CCGW060204-2	6.35	2.38	2.8	0.4	2.5	○	○	○	○							
	CCGW060208-2	6.35	2.38	2.8	0.8	2.4	○	○	○	○							
	CCGW09T304-2	9.525	3.97	4.4	0.4	2.5	★	★	★	★							
	CCGW09T308-2	9.525	3.97	4.4	0.8	2.4	★	★	★	★							
	CCGW120404-2	12.7	4.76	5.5	0.4	2.5	★	★	★	★							
	CCGW120408-2	12.7	4.76	5.5	0.8	2.4	★	★	★	★							
	CCGW120412-2	12.7	4.76	5.5	1.2	2.3	○	○	○	○							
	CCGW09T304-2	9.525	3.97	4.4	0.4	2.5					○	○	○				
	CCGW09T308-2	9.525	3.97	4.4	0.8	2.4					○	○	○				
	CCGW09T312-2	9.525	3.97	4.4	1.2	2.3					○	○	○				
	CCGW120404-2	12.7	4.76	5.5	0.4	2.5					○	○	○				
	CCGW120408-2	12.7	4.76	5.5	0.8	2.4					○	○	○				
	CCGW120412-2	12.7	4.76	5.5	1.2	2.3					○	○	○				

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool


SCACR/L Kr:90°
Page A183

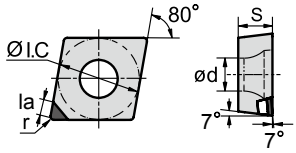

SCLCR/L Kr:95°
A184


SCLCR/L Kr:95°
A220


SCFCR Kr:90°
A234

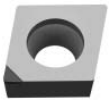

SCLCR Kr:95°
A235

CC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material	😐	😊		😐							
K	Cast iron	😊		😊		😐	☹					
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm) ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	CCMX060202	6.35	2.38	2.8	0.2	2.5								★	○	★	○
	CCMX060204	6.35	2.38	2.8	0.4	2.5								★	○	★	○
	CCMX060208	6.35	2.38	2.8	0.8	2.4								★	○	★	○
	CCMX09T304	9.525	3.97	4.4	0.4	2.5								★	○	★	○
	CCMX09T308	9.525	3.97	4.4	0.8	2.4								★	○	★	○
	CCMX120408	12.7	4.76	5.5	0.8	2.4								★	○	★	○

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

Applicable tool


SCACR/L Kr:90°
Page A183

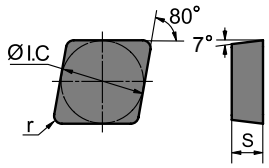

SCLCR/L Kr:95°
A184


SCLCR/L Kr:95°
A220


SCFCR Kr:90°
A234


SCLCR Kr:95°
A235

CC□□ (Positive inserts)



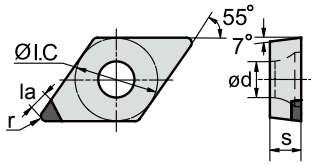
Good working condition Normal working condition Bad working condition

Workpiece material		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material	😐	😊		😐							
K	Cast iron	😊		😊		😐	☹					
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm) ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	CCGN120404	12.7	4.76	0.4					★	★	★				
	CCGN12T608	12.7	6.75	0.8					★	★	★				
	CCGN120712	12.7	7.94	1.2					★	★	★				

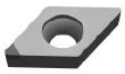
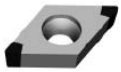
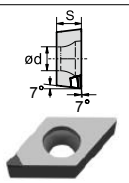
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

DC□□ (Positive inserts)



Good working condition　Normal working condition　Bad working condition

Workpiece material											
H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	DCGW070202	6.35	2.38	2.8	0.2	2.7	○	○	○	○				★	○	★	○
	DCGW070204	6.35	2.38	2.8	0.4	2.5	○	○	○	○				★	○	★	○
	DCGW070208	6.35	2.38	2.8	0.8	2.1	○	○	○	○							
	DCGW11T304	9.525	3.97	4.4	0.4	2.5	○	○	○	○				★	○	★	○
	DCGW11T308	9.525	3.97	4.4	0.8	2.1	○	○	○	○				★	○	★	○
	DCGW070202-2	6.35	2.38	2.8	0.2	2.7	○	○	○	○							
	DCGW070204-2	6.35	2.38	2.8	0.4	2.5	○	○	○	○							
	DCGW070208-2	6.35	2.38	2.8	0.8	2.1	○	○	○	○							
	DCGW11T304-2	9.525	3.97	4.4	0.4	2.5	★	★	★	★							
	DCGW11T308-2	9.525	3.97	4.4	0.8	2.1	★	★	★	★							
	DCGW11T304-2	9.525	3.97	4.4	0.4	2.5					○	○	○				
	DCGW11T308-2	9.525	3.97	4.4	0.8	2.1					○	○	○				
	DCGW11T312-2	9.525	3.97	4.4	0.8	2					○	○	○				
	DCGW11T304-2	9.525	3.97	4.4	0.4	2.5					○	○	○				
	DCGW11T308-2	9.525	3.97	4.4	0.8	2.1					○	○	○				
	DCMX070202	6.35	2.38	2.8	0.2	2.7								★	○	★	○
	DCMX070204	6.35	2.38	2.8	0.4	2.5								★	○	★	○
	DCMX11T304	9.525	3.97	4.4	0.4	2.5								★	○	★	○
	DCMX11T308	9.525	3.97	4.4	0.8	2.1								★	○	★	○

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool


SDACR/L
Kr:90°
Page A185


SDJCR/L
Kr:93°
A186

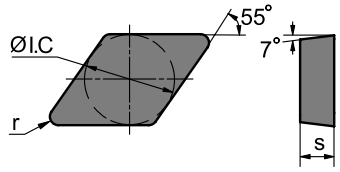

SDNCN
Kr:62°30'
A187


SDQCR/L
Kr:107°30'
A221


SDUCR/L
Kr:93°
A222


SDZCR/L
Kr:95°
A223

DC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material

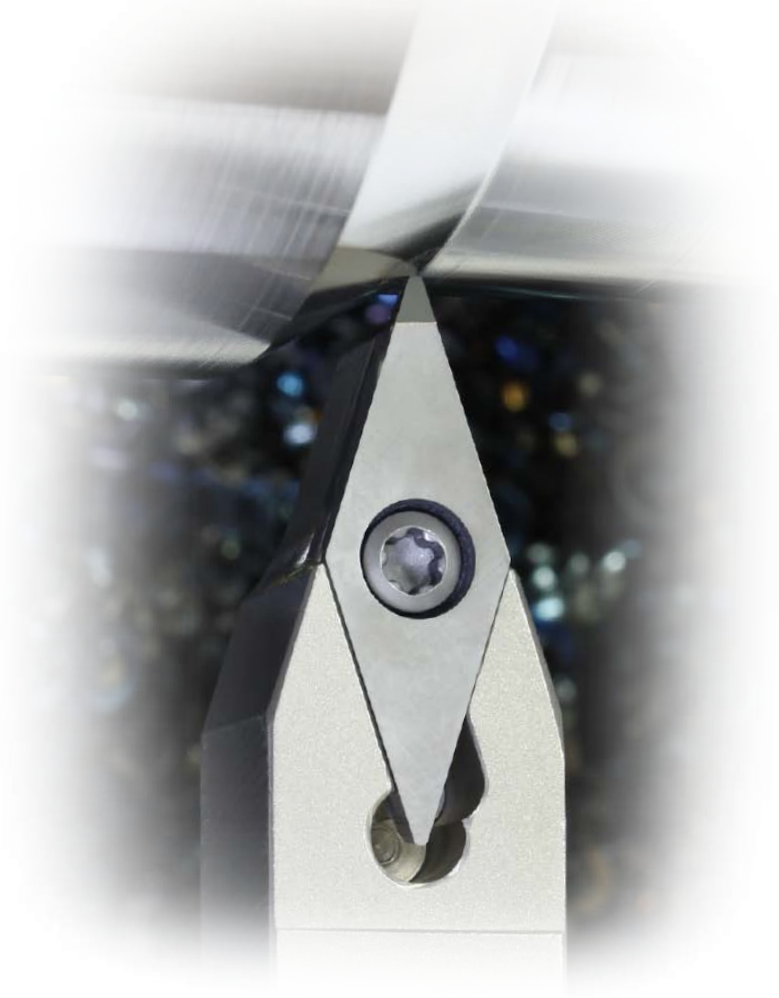
		YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
H	Super hard material		😐	😊		😐						
K	Cast iron	😊			😊		😐	☹				
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)			Grade										
		ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	**DCGN110404**	9.525	4.76	0.4					★	★	★				
	DCGN110408	9.525	4.76	0.8					★	★	★				

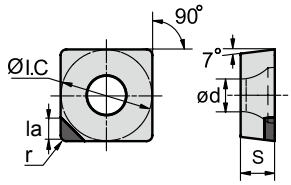
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

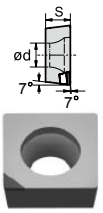


SC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material											
H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	SCGW120404	12.7	4.76	5.56	0.4	2.5	○	○	○	○				★	○	★	○
	SCGW120408	12.7	4.76	5.56	0.8	2.3	○	○	○	○				★	○	★	○
	SCGW120412	12.7	4.76	5.56	1.2	2.1	○	○	○	○				★	○	★	○
	SCGW120404-2	12.7	4.76	5.56	0.4	2.5	★	★	★	★							
	SCGW120408-2	12.7	4.76	5.56	0.8	2.3	★	★	★	★							
	SCGW120412-2	12.7	4.76	5.56	1.2	2.1	○	○	○	○							
	SCGW120404-4	12.7	4.76	5.56	0.4	2.5	○	○	○	○							
	SCGW120408-4	12.7	4.76	5.56	0.8	2.3	○	○	○	○							
	SCGW120412-4	12.7	4.76	5.56	1.2	2.1	○	○	○	○							
	SCGW120404-4	12.7	4.76	5.56	0.4	2.5					○	○	○				
	SCGW120408-4	12.7	4.76	5.56	0.8	2.3					○	○	○				
	SCGW120412-4	12.7	4.76	5.56	1.2	2.1					○	○	○				
	SCMX120404	12.7	4.76	4.4	0.4	2.5								★	○	★	○
	SCMX120408	12.7	4.76	4.4	0.8	2.3								★	○	★	○
	SCMX120412	12.7	4.76	4.4	1.2	2.1								★	○	★	○

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

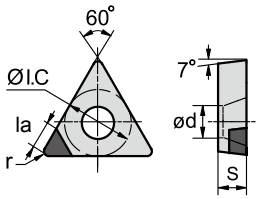
Applicable tool


SSBCR/L
Kr:75°
Page A193


SSSCR/L
Kr:45°
A193


SSKCR/L
Kr:75°
A194

TC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material

H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	TCGW090204	5.56	2.38	2.5	0.4	2.5	○	○	○	○				★	○	★	○
	TCGW090208	5.56	2.38	2.5	0.8	2.2	○	○	○	○				★	○	★	○
	TCGW110202	6.35	2.38	2.8	0.2	2.5	○	○	○	○				★	○	★	○
	TCGW110204	6.35	2.38	2.8	0.4	2.5	○	○	○	○				★	○	★	○
	TCGW110208	6.35	2.38	2.8	0.8	2.2	○	○	○	○				★	○	★	○
	TCGW110304	6.35	3.18	2.8	0.4	2.5	○	○	○	○				★	○	★	○
	TCGW16T304	9.525	3.97	4.4	0.4	2.5	○	○	○	○				★	○	★	○
	TCGW16T308	9.525	3.97	4.4	0.8	2.2	○	○	○	○				★	○	★	○
	TCGW16T312	9.525	3.97	4.4	1.2	2.0	○	○	○	○				★	○	★	○
	TCGW090204-3	5.56	2.38	2.5	0.4	2.5	○	○	○	○							
	TCGW090208-3	5.56	2.38	2.5	0.8	2.2	○	○	○	○							
	TCGW110202-3	6.35	2.38	2.8	0.2	2.5	○	○	○	○							
	TCGW110204-3	6.35	2.38	2.8	0.4	2.5	★	★	★	★							
	TCGW110208-3	6.35	2.38	2.8	0.8	2.2	★	★	★	★							
	TCGW110304-3	6.35	3.18	2.8	0.4	2.5	★	★	★	★							
	TCGW16T304-3	9.525	3.97	4.4	0.4	2.5	★	★	★	★							
	TCGW16T308-3	9.525	3.97	4.4	0.8	2.2	★	★	★	★							
	TCGW16T312-3	9.525	3.97	4.4	1.2	2.0	○	○	○	○							
	TCGW090204-3	5.56	2.38	2.5	0.4	2.5					○	○	○				
	TCGW090208-3	5.56	2.38	2.5	0.8	2.2					○	○	○				
	TCGW090212-3	5.56	2.38	2.5	1.2	2.2					○	○	○				
	TCGW110304-3	6.35	2.38	2.8	0.4	2.5					○	○	○				
	TCGW110308-3	6.35	2.38	2.8	0.8	2.2					○	○	○				
	TCGW110312-3	6.35	3.18	2.8	1.2	2.2					○	○	○				
	TCGW16T304-3	9.525	3.97	4.4	0.4	2.5					○	○	○				
	TCGW16T308-3	9.525	3.97	4.4	0.8	2.2					○	○	○				
	TCGW16T312-3	9.525	3.97	4.4	1.2	2.2					○	○	○				

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

Applicable tool


STACR/L
Kr:90°
Page A195

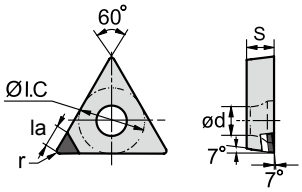

STFCR/L
Kr:91°
A195


STGCR/L
Kr:91°
A196


STTCR/L
Kr:60°
A197


STFCR/L
Kr:91°
A225

TC□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material		
H	Super hard material	😐 😊 😐
K	Cast iron	😊 😊 😐 ☹
N	Non ferrous metal	😐 😊 😐 ☹

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	TCMX090204	5.56	2.38	2.5	0.4	2.5								★	○	★	○
	TCMX090208	5.56	2.38	2.5	0.8	2.0								★	○	★	○
	TCMX110202	6.35	2.38	2.8	0.2	2.5								★	○	★	○
	TCMX110204	6.35	2.38	2.8	0.4	2.5								★	○	★	○
	TCMX110208	6.35	2.38	2.8	0.8	2.0								★	○	★	○
	TCMX110304	6.35	3.18	2.8	0.4	2.5								★	○	★	○
	TCMX16T304	9.525	3.97	4.4	0.4	2.5								★	○	★	○
	TCMX16T308	9.525	3.97	4.4	0.8	2.0								★	○	★	○
	TCMX16T312	9.525	3.97	4.4	1.2	2.0								★	○	★	○

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

Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool


STACR/L
Kr:90°
Page A195

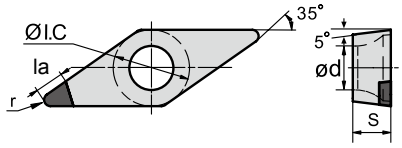

STFCR/L
Kr:91°
A195


STGCR/L
Kr:91°
A196


STTCR/L
Kr:60°
A197

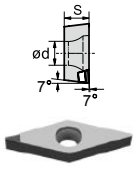

STFCR/L
Kr:91°
A225

VB□□ (Positive inserts)



Good working condition Normal working condition Bad working condition

Workpiece material											
H	Super hard material		😐	😊		😐					
K	Cast iron	😊			😊		😐	☹			
N	Non ferrous metal								😐	😊	😐	☹

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	VBGW160404	9.525	4.76	4.4	0.4	2.8	○	○	○	○				★	○	★	○
	VBGW160408	9.525	4.76	4.4	0.8	2.5	○	○	○	○				★	○	★	○
	VBGW160412	9.525	4.76	4.4	1.2	2.0	○	○	○	○				★	○	★	○
	VBGW160404-2	9.525	4.76	4.4	0.4	2.8	★	★	★	★							
	VBGW160408-2	9.525	4.76	4.4	0.8	2.5	★	★	★	★							
	VBGW160412-2	9.525	4.76	4.4	1.2	2.0	○	○	○	○							
	VBMX160404	9.525	4.76	4.4	0.4	2.8								★	○	★	○
	VBMX160408	9.525	4.76	4.4	0.8	2.5								★	○	★	○
	VBMX160412	9.525	4.76	4.4	1.2	2.0								★	○	★	○

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

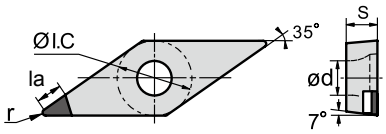
Type of cutting edge

	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Negative inserts	T01515	S01020	S02020	T01525	S01020	T02020	T02025
Positive inserts							

Applicable tool

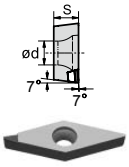
SVJBR/L Kr:93°	SVABR/L Kr:90°	SVVBN Kr:72°30'	SVQBR/L Kr:107°30'	SVUBR/L Kr:93°
				
Page A188	A189	A190	A228	A229

VC□□ (Positive inserts)



Good working condition | Normal working condition | Bad working condition

Workpiece material	
H	Super hard material
K	Cast iron
N	Non ferrous metal

Inserts shape	Type	Dimensions(mm)					Grade									
		ØI.C	S	ød	r	la	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	VCGW160404	9.525	4.76	4.4	0.4	2.8								★	○	★	○
	VCGW160408	9.525	4.76	4.4	0.8	2.5								★	○	★	○
	VCGW160412	9.525	4.76	4.4	1.2	2.0								★	○	★	○
	VCMX160404	9.525	4.76	4.4	0.4	2.8								★	○	★	○
	VCMX160408	9.525	4.76	4.4	0.8	2.5								★	○	★	○
	VCMX160412	9.525	4.76	4.4	1.2	2.0								★	○	★	○

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

Applicable tool

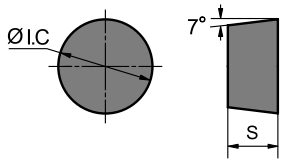
SVVCN
Kr:72°30'

Page A191

SVJCR/L
Kr:93°

A192

RC□□ (Positive inserts)



Good working condition | Normal working condition | Bad working condition

Workpiece material	
H	Super hard material
K	Cast iron
N	Non ferrous metal

Inserts shape	Type	Dimensions(mm)			Grade										
		ØI.C	S	r	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231	YCD011	YCD412	YCD421	YCD511
	RCGN090300	9.525	3.18						★	★	★				
	RCGN120400	12.7	4.76						★	★	★				
	RCGN120700	12.7	7.94						★	★	★				
	RCGN150700	15.875	7.94						★	★	★				

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

Abnormal failure and solutions for cast iron machining

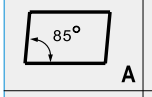
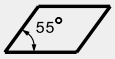
Abnormal failure		Solution
Breakage	Breakage occurring on chamfer of rake face	Enlarge chamfered negative rake angle
	Edge crashing when finishing grey cast iron	
Abrasion	Abrasion occurring when machining nodular cast iron	Change to dry cutting
	Abrasion under dry cutting conditions	Reduce cutting speed
	Abrasion occurring when machining grey cast iron	Change to dry cutting; increase cutting speed
Surface quality	Poor surface finish	Increase cutting speed; increase nose radius; reduce feed rate
	Bad cylindricity and coaxiality	Reduce nose radius; improve stability; change to positive insert
	Burrs	Change to positive insert; reduce chamfer width

Abnormal failure and solutions for hardened steel

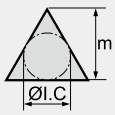
Abnormal failure			Solution
Breakage	Cutting edge breakage		Enlarge chamfered negative rake angle; raise cutting speed and reduce feed
	Flaking and crater wear on rake face		Reduce cutting speed
	Thermal cracks		Change to dry cutting; reduce cutting speed
Abrasion	Wear occurring on chamfer of rake face		Reduce cutting speed
	Rapid wear when finishing grey cast iron		
Surface quality	Poor surface finish	Vibration	Reduce chamfered negative rake angle; reduce nose radius; reduce feed rate; improve stability
		Tool mark	Increase nose radius; reduce feed rate; change to dry cutting; increase cutting speed
	Bad cylindricity and coaxiality		Reduce nose radius; improve stability; change to positive insert

Ceramic inserts code key

Insert shape

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

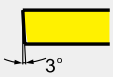
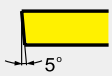
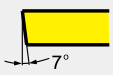
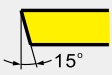
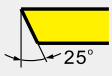
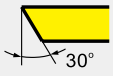
Tolerance class



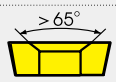
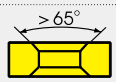
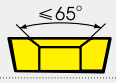
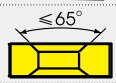
Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)	Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)
A	±0.005	±0.025	±0.025	J	±0.005	±0.05-±0.13	±0.025
F	±0.005	±0.013	±0.025	K	±0.013	±0.05-±0.13	±0.025
C	±0.013	±0.025	±0.025	L	±0.025	±0.05-±0.13	±0.025
H	±0.013	±0.013	±0.025	M	±0.08-±0.18	±0.05-±0.13	±0.13
E	±0.025	±0.025	±0.025	N	±0.08-±0.18	±0.05-±0.13	±0.025
G	±0.025	±0.025	±0.13	U	±0.13-±0.38	±0.08-±0.25	±0.13

C N G A

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 angle

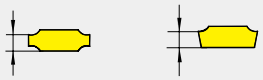
Chipbreaker and clamping system

Code	With/Without hole	Section plane of insert
N	Without	
B	With	
C	With	
A	With	
W	With	
Q	With	
X	---	Special

Length of cutting edge

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

Insert thickness



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

Code	Insert thickness(mm)	Code	Insert thickness(mm)
02	2.38	06	6.35
T2	2.58	T6	6.75
03	3.18	07	7.94
T3	3.97	09	9.52
04	4.76	T9	9.72
T4	4.96	11	11.11
05	5.56	12	12.70
T5	5.95		

Nose radius code

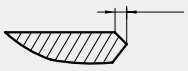
Code	Nose radius(mm)
00	No radius
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	Others
Diameter of insert (Metric)	Round insert

12 04 08 T 020 20

Type of cutting edge

Code	Type of cutting edge	Picture
E	Honing	
T	Chamfering	
S	Chamfering +honing	
F	Sharp edges	

Chamfer width (mm)

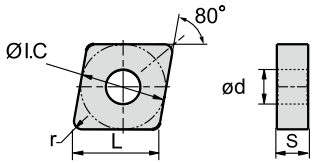


010	0.10	040	0.40
015	0.15	045	0.45
020	0.20	050	0.50
025	0.25	100	1.00
030	0.30	200	2.00
035	0.35		

Chamfer angle

05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

Ceramic inserts



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**CNGA120404T02020**	12.9	12.7	4.76	5.16	0.4		★	
	CNGA120408T02020	12.9	12.7	4.76	5.16	0.8		★	
	CNGA120412T02020	12.9	12.7	4.76	5.16	1.2		★	
	CNGA160608T02020	16.1	15.875	6.35	6.35	0.8		★	
	CNGA160612T02020	16.1	15.875	6.35	6.35	1.2		★	
	CNGA160616T02020	16.1	15.875	6.35	6.35	1.6		★	

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

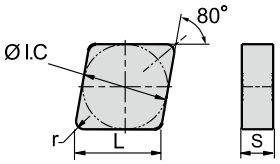
Applicable tool


DCLNR/L Kr:95°
Page A164


PCBNR/L Kr:75°
A171


PCLNR/L Kr:95°
A172


PCLNR/L Kr:95°
A214



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**CNGN120404T02020**	12.9	12.7	4.76	-	0.4	★		
	CNGN120408T02020	12.9	12.7	4.76	-	0.8	★	○	★
	CNGN120412T02020	12.9	12.7	4.76	-	1.2	★	○	★
	CNGN120708T02020	12.9	12.7	7.94	-	0.8	★	○	★
	CNGN120712T02020	12.9	12.7	7.94	-	1.2	★	○	★
	CNGN120716T02020	12.9	12.7	7.94	-	1.6	★	○	★
	CNGN160408T02020	16.1	15.875	4.76	-	0.8	★		
	CNGN160412T02020	16.1	15.875	4.76	-	1.2	★	○	★
	CNGN160416T02020	16.1	15.875	4.76	-	1.6	★	○	★
	CNGN160612T02020	16.1	15.875	6.35	-	1.2	★		
	CNGN160616T02020	16.1	15.875	6.35	-	1.6	★	○	★

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

Applicable tool

CCLNR/L
Kr:95°

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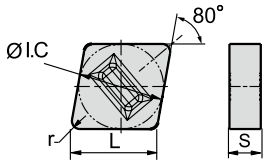
Ceramic inserts



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**CNGX120712T02020**	12.9	12.7	7.94	-	1.2		★	
	CNGX120716T02020	12.9	12.7	7.94	-	1.6		★	

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

Applicable tool

JCLNR/L
Kr:95°

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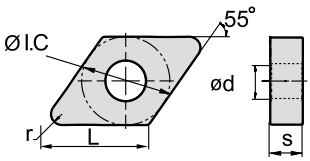
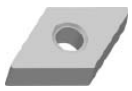


Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**DNGA150604T02020**	15.5	12.7	6.35	5.16	0.4		★	
	DNGA150608T02020	15.5	12.7	6.35	5.16	0.8		★	
	DNGA150612T02020	15.5	12.7	6.35	5.16	1.2		★	
	DNGA150616T02020	15.5	12.7	6.35	5.16	1.6		★	

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

Applicable tool

DDJNR/L
Kr:93°

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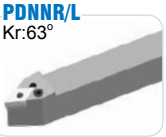
PDJNR/L
Kr:93°

A173

PDNNR/L
Kr:63°



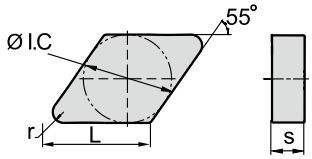
A174

PDSNR/L
Kr:62°30'

A215

PDUNR/L
Kr:93°

A216



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**DNGN150408T02020**	15.5	12.7	4.76	-	0.8	★	★	★
	DNGN150412T02020	15.5	12.7	4.76	-	1.2	★	★	★
	DNGN150704T02020	15.5	12.7	7.94	-	0.4	★	★	★
	DNGN150708T02020	15.5	12.7	7.94	-	0.8	★	★	★
	DNGN150712T02020	15.5	12.7	7.94	-	1.2	★	★	★
	DNGN150716T02020	15.5	12.7	7.94	-	1.6	★	★	★

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

Applicable tool

CDJNR/L
Kr:93°

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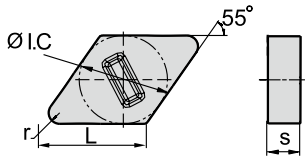

Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**DNGX150712T02020**	15.5	12.7	7.94	-	1.2		★	
	DNGX150716T02020	15.5	12.7	7.94	-	1.6		★	

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

Applicable tool

JDJNR/L
Kr:93°

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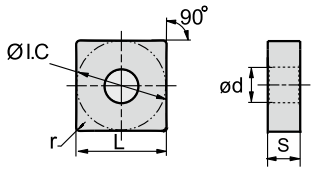


Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**SNGA120404T02020**	12.7	12.7	4.76	5.16	0.4		★	
	SNGA120408T02020	12.7	12.7	4.76	5.16	0.8		★	
	SNGA120412T02020	12.7	12.7	4.76	5.16	1.2		★	
	SNGA120416T02020	12.7	12.7	4.76	5.16	1.6		★	

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

Applicable tool


DSBNR/L Kr:75°
Page A166

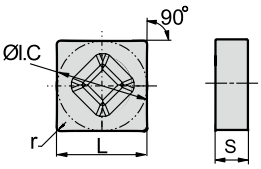

PSBNR/L Kr:75°
Page A175


PSDNN Kr:45°
Page A176


PSKNR/L Kr:75°
Page A177


PSSNR/L Kr:45°
Page A178


PSKNR/L Kr:75°
Page A217



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**SNGX120708T02020**	12.7	12.7	7.94	-	0.8		★	
	SNGX120712T02020	12.7	12.7	7.94	-	1.2		★	
	SNGX120716T02020	12.7	12.7	7.94	-	1.6		★	

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

Applicable tool


JSDNN Kr:45°
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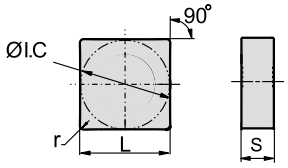

Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	SNGN090308T01020	9.525	9.525	3.18	-	0.8	★		
	SNGN090312T01020	9.525	9.525	3.18	-	1.2	★		
	SNGN120404T02020	12.7	12.7	4.76	-	0.4	★	○	★
	SNGN120408T02020	12.7	12.7	4.76	-	0.8	★	○	★
	SNGN120412T02020	12.7	12.7	4.76	-	1.2	★	○	★
	SNGN120416T02020	12.7	12.7	4.76	-	1.6	★		
	SNGN120704T02020	12.7	12.7	7.94	-	0.4	★		
	SNGN120708T02020	12.7	12.7	7.94	-	0.8	★	○	★
	SNGN120712T02020	12.7	12.7	7.94	-	1.2	★		
	SNGN120716T02020	12.7	12.7	7.94	-	1.6	★		
	SNGN150708T02020	15.875	15.875	7.94	-	0.8	★	○	★
	SNGN150712T02020	15.875	15.875	7.94	-	1.2	★	○	★
	SNGN150716T02020	15.875	15.875	7.94	-	1.6	★		
	SNGN190708T03020	19.05	19.05	7.94	-	0.8	★		
	SNGN190712T03020	19.05	19.05	7.94	-	1.2	★		
	SNGN190716T03020	19.05	19.05	7.94	-	1.6	★		
	SNGN190724T03020	19.05	19.05	7.94	-	2.4	★		
	SNGN191024T04020	19.05	19.05	10.05	-	2.4	★		
	SNGN251024T10015	25.4	25.4	10.05	-	2.4	★		

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

Applicable tool

CSRNR/L
Kr:75°

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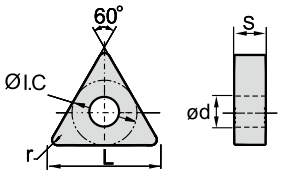
Ceramic inserts



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**TNGA160404T01020**	16.50	9.525	4.76	3.86	0.4		★	
	TNGA160408T02020	16.50	9.525	4.76	3.86	0.8		★	
	TNGA160412T02020	16.50	9.525	4.76	3.86	1.2		★	
	TNGA220408T02020	22.00	12.7	4.76	5.16	0.8		★	
	TNGA220412T02020	22.00	12.7	4.76	5.16	1.2		★	
	TNGA220416T02020	22.00	12.7	4.76	5.16	1.6		★	

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

Applicable tool


DTGNR/L Kr:91°
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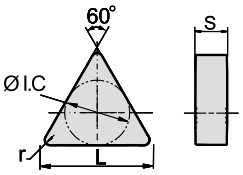
PTFNR/L Kr:91°
A179


PTTNR/L Kr:60°
A180


PTGNR/L Kr:90°
A181


PTFNR/L Kr:90°
A218



Good working condition
Normal working condition
Bad working condition

Workpiece material				
P	Steel	😊	☹	😊 ☹
K	Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**TNGN160404T02020**	16.50	9.525	4.76	-	0.4	★		
	TNGN160408T02020	16.50	9.525	4.76	-	0.8	★	○	★
	TNGN160412T02020	16.50	9.525	4.76	-	1.2	★	○	★
	TNGN160708T02020	16.50	9.525	7.94	-	0.8	★	○	★
	TNGN160712T02020	16.50	9.525	7.94	-	1.2	★		
	TNGN160716T02020	16.50	9.525	7.94	-	1.6	★		
	TNGN220408T02020	22.00	12.7	4.76	-	0.8	★	○	★
	TNGN220412T02020	22.00	12.7	4.76	-	1.2	★	○	★
	TNGN220416T02020	22.00	12.7	4.76	-	1.6	★	○	★
	TNGN220712T02020	22.00	12.7	7.94	-	1.2	★		
	TNGN220716T02020	22.00	12.7	7.94	-	1.6	★		

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

Applicable tool

CTJNR/L
Kr:93°

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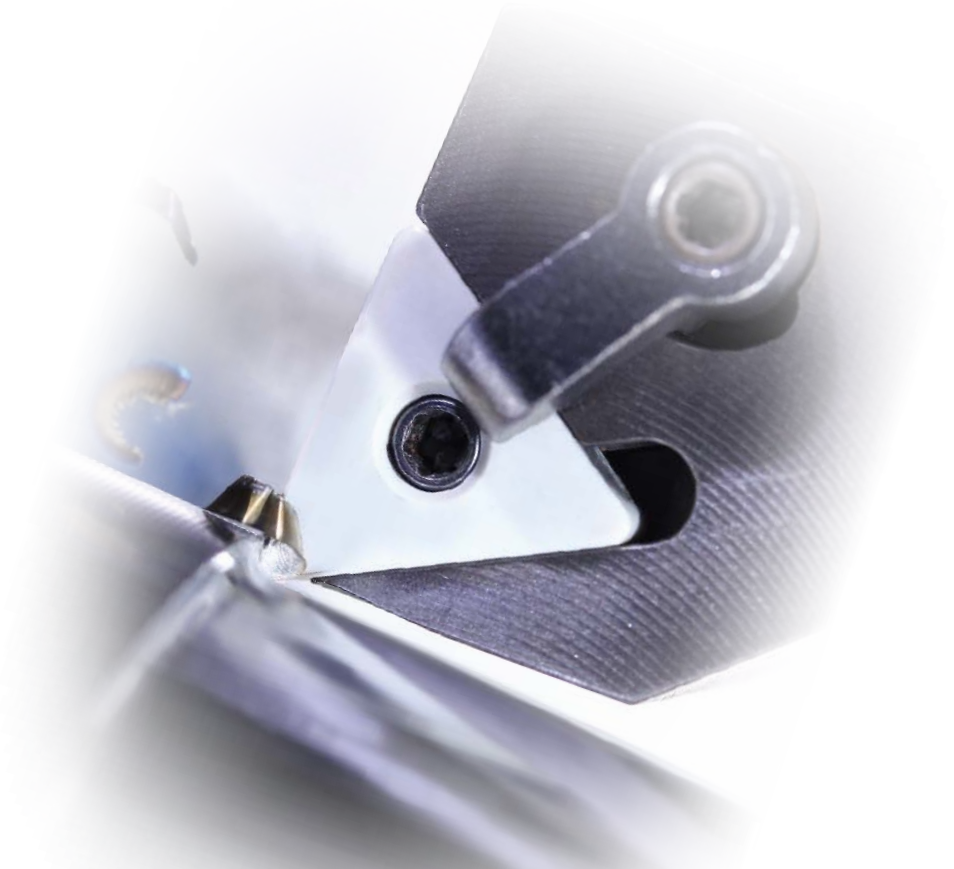

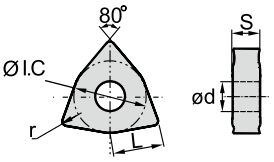

Good working condition
Normal working condition
Bad working condition

Workpiece material

P Steel	😊	☹	😊 ☹
K Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**WNGA080408T02020**	8.69	12.7	4.76	5.16	0.8		★	
	WNGA080412T02020	8.69	12.7	4.76	5.16	1.2		★	
	WNGA080416T02020	8.69	12.7	4.76	5.16	1.6		★	

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

Applicable tool

DWLNR/L Kr:95°

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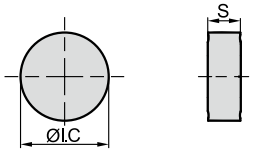
PWLNR/L Kr:95°

A182

PWLNR/L Kr:95°

A219



Good working condition
Normal working condition
Bad working condition

Workpiece material

P Steel	😊	☹	😊 ☹
K Cast iron	😊	😊 😐 ☹	😊 ☹

Inserts shape	Type	Dimensions(mm)					Grade		
		L	ØI.C	S	ød	r	CA1000	CN1000	CN2000
	**RNGN090400T02020**	---	9.53	4.76	---	---	★		
	RNGN120400T02020	---	12.7	4.76	---	---	★	○	★
	RNGN120700T02020	---	12.7	7.94	---	---	★	○	★
	RNGN150700T02020	---	15.875	7.94	---	---	★	○	★
	RNGN190700T03020	---	19.05	7.94	---	---	★	○	★
	RNGN251000T05020	---	25.40	10.05	---	---	★		

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

Applicable tool

CRDNN

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