

<80 degree Rhombic Negative type>

Item Number	IC	T
CN_1204	12.7	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide										Chip Control Range	For applicable holder, see pages:		
				PVD Coated						CVD Coated							
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1				
				Steel	P	●	●	●	●	●	●	●	●	●	●	●	● : 1st Choice ● : 2nd choice
				Stainless Steel	M	●	●	●	●	●	●	●	●	●	●		
				Cast Iron	K	●	●	●	●	●	●	●	●	●	●		
				Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●	●		
				Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●	●		
				Hardened Material	H	●	●	●	●	●	●	●	●	●	●		
	CNGG 120404 FN UL	CNGG431FNUL	0.4			●		●		●							F9 F11 G40 K34
UL	120408 FN UL	432FNUL	0.8			●		●		●							
	CNMG 120408 G	CNMG432-G	0.8									●					
G	120412 G	433-G	1.2									●					
G	120416 G	434-G	1.6									●					
	CNMG 120408 TNB Z5	432-TNB-Z5	0.8			●						●					
Z5																	
	CNGG 120404 FN ZP	CNGG431-FN-ZP	0.4			●	●					●					
ZP	120408 FN ZP	432-FN-ZP	0.8			●	●					●					

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<55 degree Rhombic Negative type>

Item Number	IC	T
DN_1504	12.7	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide										Chip Control Range	For applicable holder, see pages:	
				PVD Coated						CVD Coated						
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1			
				Steel	P	●	●	●	●	●	●	●	●	●	●	● : 1st Choice ● : 2nd choice
				Stainless Steel	M	●	●	●	●	●	●	●	●	●		
				Cast Iron	K	●	●	●	●	●	●	●	●	●		
				Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●		
				Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●		
				Hardened Material	H	●	●	●	●	●	●	●	●	●		
	DNMG 150404 G	DNMG431-G	0.4									●				
G	150408 G	432-G	0.8									●				
G	150412 G	433-G	1.2									●				
	DNMG 150404 TN G	DNMG431-TN-G	0.4			●										
G																
	DNMG 150408 TNB Z5	DNMG432-TNB-Z5	0.8			●						●				
Z5																
	DNGG 150404 FN ZP	DNGG431-FN-ZP	0.4			●	●					●				
ZP	150408 FN ZP	432-FN-ZP	0.8			●	●					●				

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

Carbide

Negative type

Positive type

G

D

E

R

S

T

V

W

<90 degree Square Negative type>

Item Number	IC	T
SN_1204	12.7	4.76

				<table border="1"> <tr><td>Steel</td><td>P</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Stainless Steel</td><td>M</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Cast Iron</td><td>K</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Non-Ferrous Material</td><td>N</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Heat Resistant Alloy</td><td>S</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Hardened Material</td><td>H</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> </table>	Steel	P	●	●	●	●	●	●	●	●	●	●	●	●	Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●	●	Cast Iron	K	●	●	●	●	●	●	●	●	●	●	●	●	Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●	●	●	●	Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●	●	●	●	Hardened Material	H	●	●	●	●	●	●	●	●	●	●	●	●	<ul style="list-style-type: none"> ● : 1st Choice ● : 2nd choice
Steel	P	●	●	●	●	●	●	●	●	●	●	●	●																																																																												
Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●	●																																																																												
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	SNMG 120408 G	SNMG432-G	0.8								●				F17																																																																										
	SNMG 120412 G	SNMG433-G	1.2								●				F19																																																																										
	SNMG 120416 G	SNMG434-G	1.6								●				K36																																																																										
	SNMG 120408 TNB Z5	SNMG432-TNB-Z5	0.8			●				●																																																																															

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<60 degree Triangle Negative type>

Item Number	IC	T
TN_1604	9.525	4.76

				<table border="1"> <tr><td>Steel</td><td>P</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Stainless Steel</td><td>M</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Cast Iron</td><td>K</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Non-Ferrous Material</td><td>N</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Heat Resistant Alloy</td><td>S</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> <tr><td>Hardened Material</td><td>H</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td><td>●</td></tr> </table>	Steel	P	●	●	●	●	●	●	●	●	●	●	●	●	Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●	●	Cast Iron	K	●	●	●	●	●	●	●	●	●	●	●	●	Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●	●	●	●	Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●	●	●	●	Hardened Material	H	●	●	●	●	●	●	●	●	●	●	●	●	<ul style="list-style-type: none"> ● : 1st Choice ● : 2nd choice
Steel	P	●	●	●	●	●	●	●	●	●	●	●	●																																																																												
Stainless Steel	M	●	●	●	●	●	●	●	●	●	●	●	●																																																																												
Cast Iron	K	●	●	●	●	●	●	●	●	●	●	●	●																																																																												
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				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1																																																																												
	TNMG 160408 G	TNMG332-G	0.8								●																																																																														
	160412 G	333-G	1.2								●																																																																														
	TNMG 160404 TNB Z5	331-TNB-Z5	0.4			●					●																																																																														
	160408 TNB Z5	332-TNB-Z5	0.8			●					●																																																																														
	TNGG 160402 FN ZP	TNGG33Y-FN--ZP	0.2			●	●				●																																																																														
	160404 FN ZP	331-FN--ZP	0.4			●	●				●																																																																														
	160408 FN ZP	332-FN--ZP	0.8			●	●				●																																																																														
	TNGG 160402 F ^R / _L C	TNGG33Y-F ^R / _L --C	0.2			R									F23																																																																										
															F25																																																																										
	TNEG 160402 F ^R / _L D1		0.2					●							G39																																																																										
	160404 F ^R / _L D1		0.4					●																																																																																	
	160408 F ^R / _L D1		0.8					●																																																																																	
	TNGG 160401 F ^R / _L DA	TNGG331CF ^R / _L --DA	0.1			R	R																																																																																		
	TNGG 160401 F ^R / _L U2	TNGG331CF ^R / _L --U2	0.1			R	R																																																																																		
	160402 F ^R / _L U2	33Y-F ^R / _L --U2	0.2			●					●																																																																														
	160404 F ^R / _L U2	331-F ^R / _L --U2	0.4			●					●																																																																														
	160408 F ^R / _L U2	332-F ^R / _L --U2	0.8			●					●																																																																														
	TNGG 160401M FN UL	TNGG3304MFNUL	*0.08	●	●	●	●	●	●	●	●	●	●																																																																												
	160402M FN UL	3308MFNUL	*0.18	●	●	●	●	●	●	●	●	●	●																																																																												
	160404M FN UL	331MFNUL	*0.38	●	●	●	●	●	●	●	●	●	●																																																																												
	160408M FN UL	332MFNUL	*0.78	●	●	●	●	●	●	●	●	●	●																																																																												

*Inserts having 01M, 02M or 04M as the R code can be used for machining when the component drawing specifies that the radius is less than R=0.1, R=0.2 or R=0.4 respectively. ● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<35 degree Rhombic Negative type>

Item Number	IC	T
VN_1604	9.525	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide										Chip Control Range	For applicable holder, see pages:	
				PVD Coated						CVD Coated						
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1			
				Steel	P	●	●	●	●	●	●	●	●	●	●	● : 1st Choice ● : 2nd choice
				Stainless Steel	M	●	●	●	●	●	●	●	●	●		
				Cast Iron	K	●	●	●	●	●	●	●	●	●		
				Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●		
				Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●		
				Hardened Material	H	●	●	●	●	●	●	●	●	●		
AM1	VNMG 160404 TNB AM1	331-TNB-AM1	0.4			●										F27
	160408 TNB AM1	332-TNB-AM1	0.8			●										
G	VNMG 160404 G	VNMG331-G	0.4								●					
	160408 G	332-G	0.8								●					
	160412 G	333-G	1.2								●					
ZP	VNMG 160402 FN ZP	VNMG331-FN-ZP	0.2			●										
	160404 FN ZP	331-FN-ZP	0.4			●										
	160408 FN ZP	332-FN-ZP	0.8			●										

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)

<80 degree Hexagon Negative type>

Item Number	IC	T
WN_0804	12.7	4.76

Shape	ISO Item Number	Inch Item Number	R	Carbide										Chip Control Range	For applicable holder, see pages:	
				PVD Coated						CVD Coated						
				ST4	ZM3	QM3	VM1	TM4	DT4	DM4	CP1	CP7	KM1			
				Steel	P	●	●	●	●	●	●	●	●	●	● : 1st Choice ● : 2nd choice	
				Stainless Steel	M	●	●	●	●	●	●	●	●	●		
				Cast Iron	K	●	●	●	●	●	●	●	●	●		
				Non-Ferrous Material	N	●	●	●	●	●	●	●	●	●		
				Heat Resistant Alloy	S	●	●	●	●	●	●	●	●	●		
				Hardened Material	H	●	●	●	●	●	●	●	●	●		
G	WNMG 080408 G	WNMG432-G	0.8													F29 K37
	080412 G	433-G	1.2													
Z5	WNMG 080408 TNB Z5	WNMG432-TNB-Z5	0.8			●										
	080412 TNB Z5	433-TNB-Z5	1.2			●										
ZP	WNGG 080404 FN ZP	WNGG431-FN-ZP	0.4			●	●									
	080408 FN ZP	432-FN-ZP	0.8			●	●									
UL	WNGG 080404 FN UL	WNGG431FNUL	0.4			●	●									
	080408 FN UL	432FNUL	0.8			●	●									

● : Standard stock ● : New standard stock ■ : Scheduled to be produced by order ★ : Standard stock (Specified)